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June

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Editor

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ON THE COVER this month we see the people of Calora, the electron-world, sacrificing their mortal bodies so that they may live forever as indestructible flames of Immortality. (From "Into the Infinitesimal" by Kaye Raymond.) Cover by Paul.

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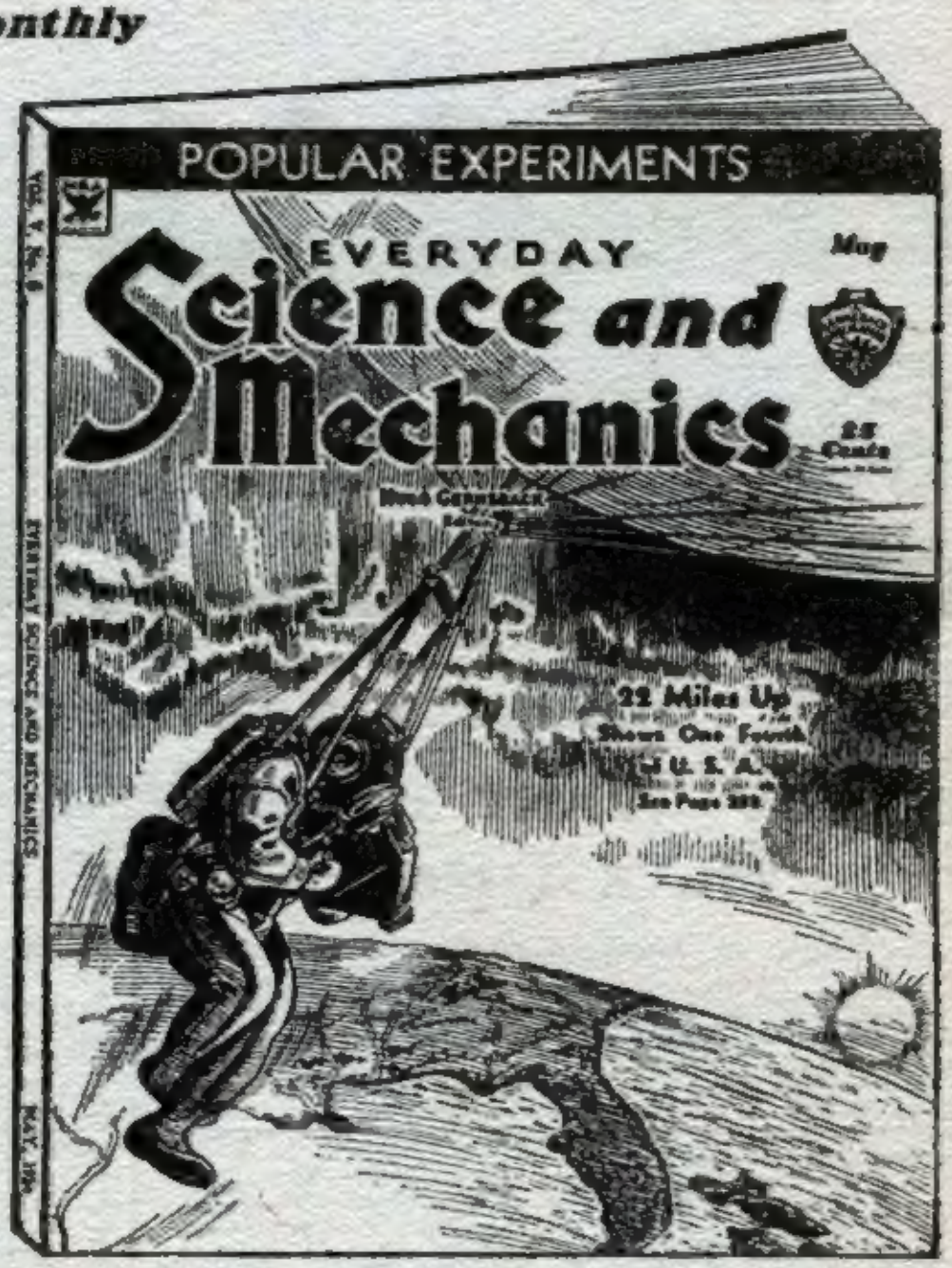

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VOLUME 6
No. 1

WONDER Stories

JUNE
1934

. . . . Prophetic Fiction is the Mother of Scientific Fact . . . .

HUGO GERNSBACK, *Editor-in-Chief*
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THE WONDERS OF TIME

By HUGO GERNSBACK

TIME is a purely mental concept, and not something existing in nature. Human beings and animals are aware of time lapses; thus the human being feels keenly the passage of time in his everyday endeavors, and an animal (a dog for instance) knows his feeding hour and thus is also keenly aware of the passage of time. If, however, you go into the inanimate world, time is not existent. Time means absolutely nothing to a gas, to a rock, or to a piece of metal; for though matter may change its composition with time, the mineral has no consciousness of time because it cannot feel or think, as we know the term.

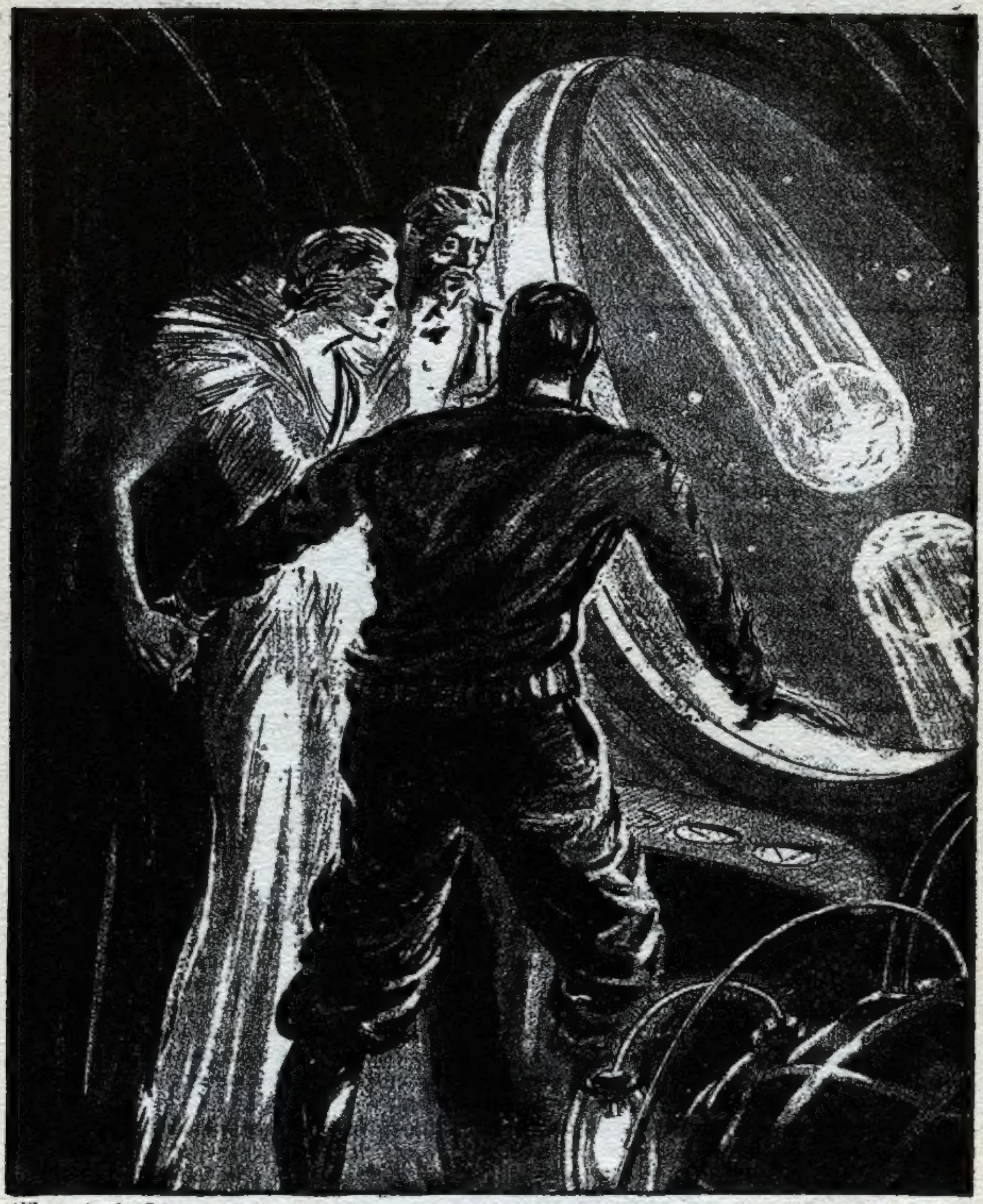
Time, as human beings know it, is merely a mathematical concept of some sort, and the "day," used by us as a yardstick, is in the same category as the geometrical idea of the earth's equator. Both are wholly imaginary; in reality, they do not exist. Time also, in reality, does not exist.

The yardstick of time, which we apply to it, is also relative and changeable. Thus, for instance, the span of life of a microbe would be, probably, the same length of time to its mind (if it had one) as our life span is to ours; and the fly which is born, lives, and dies all in one day has probably the same concept as we have for our much larger time unit; in other words, the fly, which lives for one day, lives much faster—but to it, no doubt, that one day is a whole lifetime, as much as 70 or 80 years is to us.

From this, it will be seen that there are different yardsticks for time too. The same reasoning may be used in dealing with heavenly bodies, such as the sun, planets, etc. We all know that the stars, of which our sun is one, are born, live in their full glory, and then burn to a cinder and become dark. The span of life of a star on our time scale is probably from 50 to 100 billions of our years. This inconceivably long time, which we cannot at all imagine, since our minds are not constituted for such large-scale measurements, is, so far as the sun (a small star) is concerned, of the same order as our own life span.

Of course, the sun cannot reason, and does not think, and does not feel; but the fact remains, that there are different "time scales," even though time itself does not exist. And when we come to outer space, far removed from any galaxy, which space has existed possibly without any beginning, the time scale, to our minds, becomes still more hopeless, because we are unable to cope with it entirely, since we cannot conceive anything that is infinite. Yet, we should also apply a time scale to infinity if we used logic; but we find we can no longer do so because we do not understand the term. Time and infinity in this sense become hopeless of understanding.

If the universe has no beginning, and has no end, what "time scale" can we apply to it? The futility of the human mind is shown when we begin to consider problems of this sort. They get us nowhere and, if we extend the term "time" to infinity, all logic and all mathematics cease, because we no longer have anything to which we can apply the terms which we have been using.



(Illustration by Schneeman)

A horror tore at my brain as I watched the frightful spectacle of great bodies, whose immensity could only be imagined, hurtling toward one another, to their own and our destruction!

INTO THE INFINITESIMAL

By KAYE RAYMOND

● We have not had the pleasure of presenting a story of this type to our readers for quite a while, and are sure that this tale will meet favorable acceptance.

Many scientists agree that the only difference between the atomic universe and our own is size. That is, according to relativity, it is plausible to believe that there can be life upon an electron, which will be a gigantic world to the creatures thereon, though to us, they and their universe are submicroscopic.

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This delightful fantasy will thrill you with its living action, perilous adventure, profound mystery, and human characters.

● The social calendar of the popular Metropolitan Club of Chicago does not schedule the informal discussions that prevail on Tuesday evenings throughout the winter as a legitimate part of the club's activities. Nevertheless, the courteous stewards have tacitly arranged that the twelve members forming the customary Tuesday assembly have the quietude and cheeriness of the Yale Corridor, with its spacious lobby and open fireplace.

This particular Tuesday, however, I had been seated in the famous Corridor since eight o'clock, in solitary comfort. Evidently, none but myself possessed the temerity or foolhardiness to venture out into the swirling blizzard that had descended upon a dismayed city, simply to gain the club and pass away the usual Tuesday hours of intellectual ecstasy.

I was greatly pleased, therefore, when those corpulent inseparables, Courtney and Murray, entered the Corridor an hour later, shaking off their immense fur coats, which, despite a certain amount of good-natured ridicule, they always wore.

And I was doubly pleased when Editor Williams of the *Daily Chronicle* entered.

After several humorously vindictive remarks concerning the unseasonable weather we were being subjected to and one or two cynical digs as to the elasticity of backbone displayed by fellow members, the conversation casually swung to that ever-interesting and absorbing subject, mysteries.

Courtney had quelled general discussion by launching upon an entertaining narrative of a mystery that had concerned his private museum, whereupon Murray had countered with his contribution of a weird ocean mystery that had occurred on board that magnificent steamship, the *Ile de France*, during a recent crossing.

When he had concluded his story, we three sat quietly contemplating the glowing fireplace. For a few minutes, the silence that reigned in the luxurious Corridor was disturbed only by the crackling of the leaping flames and the monotonous ticking of the ponderous grandfather's clock occupying a far corner of the famous room.

The hitherto reticent Williams unexpectedly broke the stillness.

"Have you ever heard of a mystery whose solution, when achieved, but led to the investigation of incidents far more fantastic and *outré* than the initial mystery itself?" He directed an interrogative look over his spectacles toward me in particular.

"Why no," I replied hesitantly, "I cannot say that I have."

Williams opened his mouth to speak, but cast a glance over toward the cynical Courtney, who always tore a narrative to verbal shreds did it seem to stray beyond the limited bounds of probability, and then shook his head slowly. His manner indi-

cated that we were to dismiss the question for the moment.

Later, when Courtney and Murray had hurriedly risen and rushed out of the Corridor, pleading late engagements, Williams reverted to his previous interrogation.

"I didn't like to speak further in front of Courtney and Murray," he said. "You know how those fellows are, cynical as the devil but otherwise pure gold." Here he paused, drew a closely rolled manuscript from his overcoat which had been carelessly thrown over a lounge chair, and continued.

"Until a year ago, Thomas Mawson, as you know, was editor of the *Chronicle* and my immediate superior. Then, upon his untimely death, I received his desk and position in the newsroom, although I knew that I should never be able to fill his shoes.

"Only a few days ago did I discover this manuscript which you see in my hands. This scroll purports to explain a double mystery which is still frequently discussed in the newsroom. Briefly, the unexplained mystery at first concerned a railroad, but finally resulted in the disappearance of our star police reporter, when he was assigned to the case.

"You will find, when you read this narrative, that there is one mystery, although astonishing enough in itself, that was but the medium which indicated further occurrences so weirdly unbelievable that the perplexed editor of a great newspaper did not dare to have them set in type." He handed the manuscript to me, secured his overcoat, and prepared to leave the room. But he paused at the wide doorway, looking back to where I sat interestedly unrolling the bulky papers before reading.

"In the interests of truth, Raymond," he said quietly, "I have often thought that the manuscripts should be published. And should you care to submit what is unmistakably a vanished associate's narrative of his own unexplained disappearance to the fiction magazines with which you deal, you have my permission. Who knows but that it may be believed and that some unforeseen good may result."

He uttered a parting salutation and left the club.

I know I shall interest the readers of WONDER STORIES when I inform them that, before submitting this astounding narrative for their intelligent perusal, I personally verified many of the more salient facts depicted therein. For example, I succeeded in conversing with certain officials of the particular railroad mentioned in the narrative, obtaining data to my own satisfaction, although they were exceedingly reluctant to speak.

Again, at Wickliffe Station in Ogden Dunes, I surveyed the ruins of a cottage that had been almost completely destroyed by fire. Its hilltop location and the amazing construction of the foundation proclaim it as the actual dwelling of the story.

Finally, the records of the Ogden Dunes Realty Company, to which I have obtained access, show that an Ellsworth Blakely holds the title deed to that lot!

Undoubtedly many more proofs or methods of verification will suggest themselves to the penetrating reader. But as to the truth of the narrative as an involved whole, saturated as it is with the unaccustomed and bordering at times on the grotesque, I shall not attempt to decide. Naturally, my own mind is quite made up on the matter. Far better, therefore, that I allow the readers to decide for themselves.

KAYE RAYMOND.

CHAPTER I

The Story Breaks

● Although I, Walter Tracy, was to have caught the morning train to Bear Lake as the initial step in my June vacation from the city, it was not until seven o'clock in the evening of the same day that I followed a grinning red-capped porter out through great barred gates into the immense and clamorous train shed of the Union Depot in Chicago.

"Mawson, you old idiot!" I was thinking, referring thus disrespectfully to the

overworked but kindly man who held down the desk of city editor on the *Daily Chronicle*. "Calling your star news hound back to the office today on that little matter of detail will cost the paper a Pullman fare for my forced night travel now, plus a full day extra on my vacation."

But while I had exhibited annoyance at the office, claiming that Williams could easily have handled that little matter, I had secretly exulted at the growing dependence of "the old man," upon his young and ambitious reporter.

"Heahs yo sleepah, suh!" called the porter, pointing to a car number prominently displayed in the vestibule window.

"Here you are—and thanks, George," I said languidly, rewarding him more for his geniality than the small task of carrying my luggage. "It looks as though I am really off on my vacation now, George, doesn't it?"

"Deed it do, suh," he replied chuckling, although he knew nothing of my former delay. "Deed it do!" He ambled away in the dim light, his bulky figure seeming to melt through the iron-barred gates that led to the huge waiting room.

I sighed in sheer contentment and placed one foot upon the train step. Then, with sinking heart, I observed an all too familiar figure hurrying along the motionless coaches toward me.

"Get away from me, Howard, confound you!" I cried, when that demon of office boys was still a distance away. "I know what you want and you can go right back to that old devil, Mawson, and tell him that I will not come back to the newsroom again for any reason whatever! This is my vacation and I will not have it ruined!" My voice almost broke to a scream in the depths of my agony.

"Gee, Mr. Tracy, the old man's almost off his nut!" breathed Howard, when he reached my side. "He said to hurry and get you off this train before it left the station. He said to tell you that a big story had broken and that he had no one but you who could handle it. He says, 'Tell Tracy that if he will do me this favor, I will more than make it up to him later.'"

Grimly I motioned Howard to secure my luggage and follow me out of the train shed. I had a wrathful premonition that my vacation was completely ruined this time. Vague thoughts coursed wildly through my brain. I would furiously rush into the newsroom, thus showing my exasperation and displeasure, hurl my bags into a corner, and pound Mawson's desk with a pugnacious fist, thundering out my resignation to his astonishment and grief.

My intense anger lasted until our hastily secured taxicab arrived at the huge grimy building wherein the *Chronicle* was housed. By the time I entered the newsroom itself, I had calmed down to the extent of deciding to announce my resignation in a calm sweet voice, meanwhile exhibiting a majestic dignity that would be remembered long after I had gone. Mawson would then regret his injustice to one of his slaves. Then he would go to the owner and point out the loss that the lately inaugurated policy of drive-drive-drive had subjected him to. The owner would relent, the slave policy would be modified, and Mawson would be empowered to ask my return, with a raise in salary as an inducement. I would definitely refuse.

Mawson was as impatient and abrupt as if he had not again ruthlessly interrupted my long-anticipated holiday.

"Sit down, Tracy; sit down, boy," he urged hurriedly, as I stood with tightened lip and narrowed eyes beside him.

His blue eyes, wrinkled at the corners, held twinkling lights in them that belied the grey hair and occasional sharp temper. A rare and youthful humor always lurked beneath his abrupt manner, and those who knew him loved him.

"Sit down, my eye!" I shouted indignantly, all my repressed wrath mounting to the surface. "Do you realize that this is the second time you have interrupted my vacation plans?" I really was angry, yet even in that wrathful moment, I knew that I should never be able to pound Maw-

son's desk and shout my resignation. His spell over me was complete, and I groaned inwardly as I sensed that I was again to be putty in the hands of this old man who ruled over the *Chronicle* as a mother hen over her chicks.

"What is it now?" I continued cynically. "What gigantic thing has happened to threaten the peace and security of our great nation so that the *Chronicle* summons back one of its poor insignificant reporters to handle the situation? And may I be permitted to inquire just why I am the only man who can handle this wonderful assignment that Howard informed me awaited?"

Mawson's blue eyes twinkled up at me and his generous mouth expanded into a smile. "That's better, Tracy," he soothed. He leaned back in his swivel chair and surveyed me with an indulgent expression — that same confounded expression of innocence that he always assumed when handing out his most difficult assignments.

"Out of my entire staff, Tracy," he said softly, "you are the only member who combines the ability of detective with that youthful love of extreme action and adventure, and on various occasions you have proven your ability to ferret out the concealed or the unusual, where others have failed. Therefore, I am going to ask you to cancel your vacation and take over an assignment that may possibly prove to be the most difficult and yet, at the same time, the most interesting story upon which you have ever worked."

"Cut out the blarney, chief," I murmured sadly, concealing my satisfaction at hearing his words of praise. "Let's have the dope!"

"Well, lad, it so happens that I have received exclusive information regarding a most unusual railroad occurrence. The road involved is the Chicago South Shore and South Bend line which maintains a fine electrified service between Chicago and South Bend, Indiana."

"Just a moment," I interrupted definitely. "Is this another railroad mystery like that last one you assigned me to, which made an awful sucker out of me?" That confounded case still rankled in my mind. News- and sleuth-hound Tracy, the goat of a practical joke!

"No, lad, this is not another medical student prank, but the most astonishing occurrence of the century!" He secured a paper that resembled a time-table from his desk, eyed it intently, and continued.

"Only a week ago, the Chicago South Shore and South Bend Railroad decided to inaugurate a new and advanced passenger service. With this idea in mind, they placed a special train that embodied the most modern of improvements on their right of way, naming it the South Shore Limited. This Limited is primarily a business man's train and is run for the sole purpose of cutting down the running time between South Bend and Chicago from over two hours to less than an hour and a quarter. Absolutely no stops are made during this trip for any reason whatever."

"I know about that train, chief," I affirmed. "She makes well over seventy miles an hour for the entire trip and is the latest thing in all electrical construction."

"Well, this train, which you must remember makes absolutely no stops whatever, completed a run to South Bend this morning as usual. At exactly four o'clock, she then started her return run to Chicago. At precisely four-thirty, the train was certainly at Tremont, the Indiana Dunes State Park, through which she passed at nearly eighty miles per hour, it is reported. But from there on, the rest is an uncanny void. The South Shore Limited never reached Randolph Street in the city here! The train has simply vanished, for no wreck whatever has been discovered on the line!"

● I leaned back in my chair and roared with laughter. "Good old Mawson," I cried. "Always willing to play sucker for publicity stunts. Why, if I worked for the railroad, I could think up a better one than that!"

Mawson surveyed me with a pitying

smile, his blue eyes twinkling as he replied.

"Working on this sheet is making you so cynical, Tracy, that you suspect the motives of everyone without really stopping to think. What kind of publicity do you think that an event like this would create for a railroad? No, the story is genuine; I am certain of that."

"Then little Tracy is to solve the big bad mystery in a hurry," I said sarcastically. "Thereby doubling the circulation of the *Chronicle* all of a sudden, just as he did in the Benson-Wells murder story?"

"Yes, Tracy, that is exactly what I wish you to do," replied Mawson seriously. "Of late, our circulation has dropped to an alarming point. In the future, we must print information before the other journals have it. Readers must learn that our newspaper carries all that the other papers do, plus refreshing and thought-provoking information that is to be found in the *Chronicle* alone."

"First course in journalism," I murmured wearily, crushing my lighted cigarette stub against his desk. "Then I have *carte blanche* to get on this story and stay on it until said story is solved and reported?"

Mawson assented with a nod, just as the telephone rang insistently. He listened for a minute or so, then replaced the receiver and turned to me. "I have been listening to the latest check-up and report of the railroal officials and detectives, as relayed by my telephone informant. Nothing has been found of the train as yet, but an individual has been located along the Chicago South Shore and South Bend line who saw the electric train farther along on her run than Tremont station!"

"Who is the man?"

"The head electrician of the Northern Indiana Power and Light Company's branch plant at Wickliffe, where electricity is transformed and distributed. This electrician swears that he saw the entire train, which consisted of four coaches, vanish into thin air!"

"There's the starting point, Mawson," I cried. "Where is Wickliffe?"

"About seven miles from Tremont and perhaps forty miles from the center of Chicago here. I, too, lad, am inclined to think that Wickliffe might be a logical starting point for your work in view of this latest information. And now, my boy," he concluded, "I have plenty of other work to do, so be off on your difficult task and good luck to you."

"So long, chief," I responded carelessly. "Don't worry; Neverfail Tracy is on the job!"

CHAPTER II

A Strange Occurrence

● A chill grey dawn had given way to that roseate-hued sky that always presages a splendid day as I descended from the South Bend Flyer (another speedy dunelands train) at Wickliffe Station.

I breathed deeply of the clear air, scented with that indefinable odor of the open countryside, and looked about me. To my left there stretched a cinder road running through the undulating dunes hills, those lofty mounds of sand and reedy grasses that are so interesting. On my right, the famous dunes highway lay parallel to the railroad tracks; farther back stood a one-story building of red brick. An easily discernible sign over the doorway informed one that here was the Wickliffe branch of the Northern Indiana Power and Light Company. Regardless of the sign, however, I should have easily recognized it, for numerous immense transformers and huge insulators of some sort, visible at the rear of the building, proclaimed the purpose to which the structure was put.

Walking over to the squat station of brick, I knocked upon the door. A red-faced and corpulent man clothed in yellow trousers and coarse blue shirt answered my knock. He stared in evident disfavor at my neat brown knickers and black and white striped sweater, then gruffly inquired my purpose there.

"Are you Mr. Tompkins, the head electrician here?" I inquired casually.

"I am that," he replied, still eying my radiant garb.

"Well I am Tracy of the *Chronicle*, a Chicago newspaper. I was sent out by the editor to get your story of what you saw of the South Shore Limited."

"Aye, and I thought you were another o' them crazy vacationers, coming over here from the hills to go through the plant," chuckled Tompkins in evident relief. "They drive me off my nut, they do.

"Well, sit down on that bench there and I'll tell you all I saw, though I swear you'll think me loony. But for fifty years, my eyes have told me the truth an' I'm a-backin' them up now!"

After we had seated ourselves upon the settee he indicated, he continued.

"About five o'clock, I told Rogers (he's my assistant) what I'd seen a-sittin' on this very bench we're perched on now. He laughed his fool head off then, but when he found out later in Gary that the Limited had never reached there, let alone Chicago, he changed his tune!" Here Tompkins chortled with glee at the thought of his associate's discomfiture.

"Let's have the full story, Mr. Tompkins," I suggested impatiently.

"Well, it was about ten minutes to five yesterday afternoon. I'd been a-sittin' on this very same bench about half an hour. You see, ever since they put the Limited on that railroad, I like to see her tear through Wickliffe here. She's just about the fastest thing I ever see on wheels. Well, sure enough, along she comes just a-kickin' up the dust in the roadbed. Been pretty dry weather here, you know. Well, she sweeps by a-roarin' and when she gets to that place right there—" here Tompkins pointed to a spot between two immense cottonwood trees "—when she gets there, she's gone—disappeared entirely!"

"Into thin air?" I ejaculated incredulously. "Do you seriously mean to say that an entire train, weighing Lord only knows how many tons, vanished instantly from the tracks?" Somehow, his matter-of-fact recital had put reality into the weird affair, and I found myself losing some of my skepticism.

"Into thin air!" agreed Tompkins emphatically, eying me the while to see the effect of his astonishing story.

"Are there any large ravines or excavations of any sort around here?" I asked, cocking one eye at the tracks importantly.

"Nary a one, save what we call The Ditch. That's a pretty big hole, but it's way back up the track, toward South Bend."

"I think that I shall examine those tracks over there, at the exact place where you saw the train—ah—vanish," I said significantly.

Tompkins aroused himself with alacrity. "I guess I'll go with you, son. This place here will take care of itself for a while. It's all automatic, you know. I'm really only a licensed caretaker." He chuckled as he lumbered after me. I really began to like the old duffer.

Finally we reached an exact spot where, after much thoughtful squinting, grunting, and figuring, he "allowed" that we had found the proper place. I bent down and scrutinized the track minutely. I believe that I entertained vague thoughts of rails being laid off to somewhere upon which the train, instead of vanishing into air, had swiftly angled off to some strange destination. But there was not the slightest sign of a disturbed roadbed! "Curious," I thought. For once in my newspaper career, I was stumped—completely at a loss to account for the impossible thing which had evidently happened here. Was I, the young news hound who had solved mysteries that the police had thrown up in despair, to fail at the very outset of this crazy story? I set my jaw grimly. Good old Mawson would never hear a report of failure from my lips!

"Damn it," I cried angrily. "A train can't vanish off into thin air without a trace! You and Mawson and me—we're all crazy—" I broke off suddenly upon observing Tompkins' strange actions.

He had crossed to the opposite side of the tracks and stood staring at one of the

huge cottonwood trees in very evident amazement.

"What is it; have you found something?" I asked quickly, hurrying to join him at the foot of the tree.

"Well, son, I don't rightly know whether I have or not, but I never saw a tree quite like this before; have you?" He motioned to the cottonwood.

Indeed it was a most unusual sight. The giant poplar had appeared perfect when I had viewed it from the highway and also east on the tracks. But viewed from the west, the tall tree presented an astonishing appearance. It looked as though a Gargantuan hand bearing a colossal ax had sliced the great annual neatly down the center and then removed one of the halves thus split! Only half a tree stood revealed before our marveling eyes!

"I wonder if lightning did that?" I said slowly.

Tompkins shook his head emphatically. "Ain't been a storm of any kind here in weeks. Country's dry as a bone, often is this time in June. Besides that, the wood on that tree where it's been cut is white and clean. That sawin' or whatever it is ain't more'n forty-eight hours old." And then Tompkins made a suggestion that undoubtedly saved our lives! "Suppose we go back to the plant and have a bite of lunch. Treat's on me, and if you're as starved as I am—well, you're darn' hungry, that's all!"

"Thanks, Tompkins," I replied gratefully. "I'll be glad to do that little thing. Then I must look around for a place to stay, because I begin to suspect that I will have to remain in the vicinity of the dunes for quite a while."

Then, as we walked back to where the cinder road crossed the railroad tracks, an amazing incident occurred. A blast of tornado-like wind arose from apparently nowhere, whirled Tompkins and me from off our feet as it struck from behind, and was gone. Instinctively we stared at the place that we had quitted and sat upon the ground agape.

Where there had grown two immense and spreading cottonwood trees, there now remained but two forlorn stumps projecting from the ground, exhibiting neat and freshly severed edges!

CHAPTER III

The White Cottage

● Tompkins had said to follow the cinder road in its narrow and snake-like windings through the dunes for perhaps half a mile. Then I would stand at the foot of the hill upon which was situated the white cottage that he had pointed out from the highway. Its pointed roof had been barely visible over the summits of the intervening elevations.

I now stood at the foot of the designated hill, breathless and dusty, with the perspiration, called forth by the dry heat of the dunes region, beading my forehead.

"Confound Tompkins," I thought. "This walk must have been a darn' sight nearer a mile than the half he estimated!" I sighed wearily and then began to climb the many stone steps set in the side of the hill that led to the gabled cottage. Reaching the top, I knocked upon the door.

I was not at all prepared to see the scholarly appearing old gentleman with gray hair and spectacles, out of which kindly brown eyes peered inquiringly. I suppose that with my city ideas I had subconsciously expected to see everyone in the dunes red-faced and exceedingly robust.

"I beg your pardon, sir, but is this the residence of Mr. Blakely?" I inquired. Receiving a quiet affirmative, I continued: "Well, I'm in a rather peculiar situation. You see, I have come down to the dunes region to do a certain bit of work and unfortunately had made no arrangements for shelter before I came. There does not seem to be any hotel in the vicinity and I was somewhat perplexed as to where I could stay for a few days, but a Mr. Tompkins over on the highway pointed out this house to me, said that he understood that a Mr. Blakely lived here alone and might be able to put me up for a short while."

"I do not live alone, my young friend; my daughter also resides here," replied Mr. Blakely courteously. "But while we have extra room and while your personal appearance recommends you, I really do not think that we would care to receive strangers into our little home."

"I will pay you well," I offered. Of course I knew that I could run back and forth between the dunes and Chicago each day, but I wanted to stay away from the city until my work was done. Too, warm weather was here and the city was sweltering.

"I am afraid not," the old man answered. "I, too, have work to do and I should like to pursue it uninterruptedly. Possibly if you would walk in about two miles to the water front, some one there would accommodate you. There are many small cottages along the lake."

Two miles more in the torrid sun! Nothing doing for me. I decided to walk the lesser distance to the highway and return to the city by train, until the morrow.

"Who is it, daddy?" called a musical voice from within the house.

"Just a young man who wishes to find a lodging for a few days, Helen."

"What a shame that there isn't a hotel in the neighborhood," said the musical voice coming nearer.

Then the owner of the melodious vocality stood beside the old man in the doorway and I was lost! There she was, exposed to my view, a goddess clothed in beautiful purple raiment! Only in retrospection can I find the adjectives with which to describe her—tresses of raven black hue, large black eyes whose depths held the wisdom of the ages, small mouth slightly parted revealing the whitest of teeth, and the fairest, clearest complexion that I have ever seen in a human being! Small wonder that my senses reeled. "She's divine," I told myself inwardly. "My dream girl; it's she!"

"Let the young man stay for a while, daddy," said the goddess smiling at me sympathetically. "He looks very warm and tired. It's terribly hot walking in the lowlands today, you know."

"Yes, oh, yes—it sure is," I stammered hastily, scarce knowing what I was saying. "It—it's hot all right, very hot indeed!"

The old gentleman looked at me with a quizzical expression on his kindly face. "Come in, Mr.—"

"Tracy," I hurriedly supplied. "Walter Tracy."

"Thank you. As I was saying, come in, Mr. Tracy; perhaps we can waive custom for so presentable a young man and allow him to remain for a few days. Helen, this is Mr. Walter Tracy, as you heard."

"How do you do," said the goddess serenely.

"Thank you," I replied idiotically.

I have never seen a more tastefully furnished room than the one in which we three were now seated. Furniture and rugs were of colonial simplicity, harmonizing with the English type cottage housing them. The only really modern note in the front room was struck by the apartment-sized grand piano, over which hung a large and picturesque tapestry.

"You certainly have a beautiful place here, Mr. Blakely," I remarked admiringly. "Rather unexpected out here."

"My daughter is responsible for that," replied the old man in an affectionate tone. "Helen studied interior decorating along with her music in Chicago, and delights in achieving artistic effects throughout the house."

"Daddy has so little time to spare for his daughter that said neglected daughter must find something interesting to do," Helen reminded him smilingly. Then she addressed me. "You know, father dives into his work early each day and does not stop until late at night. And all his devoted daughter gets to do is arrange and rearrange furniture, play the piano once in a while, and see that her daddy gets his meals exactly when he decides that he wants them."

"You are a very thoughtful daughter, Helen," said Mr. Blakely, reaching over

and patting her hand absently. "I suppose," he continued, "that you are, like the majority of those who come to the dunes in summer, from Chicago and vacationing?"

● Rather than explain my foolish and somewhat complicated mission, knowing it would appear thus to them, I readily seized the opportunity offered by his words. "Why, yes," I replied swiftly. "I work on a newspaper and take my vacation in June." [This was all true enough.] "I—er—am interested in the immense variety of plant life in the dunes region which varies from tropical to temperate in species" [I had read that somewhere] "and have decided to spend my full holiday here."

"You have come to the right place then," agreed the kindly Mr. Blakely. "No section of the United States can surpass the infinite variety of plant and animal life which exists in the dunes."

He rose to his feet and continued. "Now then, I believe that I will return to my work and leave you two alone to become better acquainted." He smiled kindly and hastened out of the room, to my surprise and secret pleasure.

"Poor daddy," laughed the beautiful goddess. "He can hardly wait to get back to his work. It is all he lives for."

"You—er—play the piano, Miss Blakely?" I ventured awkwardly, scarcely knowing what to say in my sudden embarrassment at being alone with this radiant girl.

"A little. Would you care to hear something?" She rose and moved toward the instrument with all the innate grace that I knew she would possess. "Which do you prefer—popular or classical?"

"Well, I don't know much about classical music," I replied, more at ease, "and I don't care much for some of the split-second stuff they turn out nowadays. Could you play something of Victor Herbert's?"

She smiled evident approval upon my choice and proceeded to run lightly through a number of familiar melodies.

"You can certainly play the piano, Miss Blakely," I remarked, walking over to her side and looking down into her upturned and lustrous eyes, "at least ninety per cent better than those that I have heard on the stage."

"Thank you, sir," archly. "You must enjoy music."

"Never miss a musical comedy that I can get a seat to," I answered quickly. "Say, I'd sure like to take you sometime. Would you like to go?" I trembled a little at my boldness.

"I would love to go—sometime." She smiled and struck into a melody from *Blossom Time*.

And then a madness took possession of me, intoxicated as I was by the beauty of this exquisite girl. I quivered at the irresistible impulse to enclose her in my arms. "Helen, dear," I wanted to say. "You are my dream girl — the lovely, flower-like, and refined creature that I have waited for throughout the ages. You are Helen of Troy, as she must have been. Oh, I love you; I love you!" But all I said aloud was: "Please promise that I may take you to a theater sometime."

My earnestness caused her to lower her long dainty eyelashes before the burning intensity of my gaze.

"If father says that I may, perhaps I shall," she replied hesitatingly.

Mawson and the *Chronicle* and the mystery that I had come to solve didn't exist as I leaned closer to the wonderful girl who had so swiftly become all the world to me.

CHAPTER IV

A Belated Confession

● The insane and maddening mystery seemed farther away and less possible of solution than ever as three days later I sat in the front room of the little white cottage and gazed disconsolately out of a window into the deepening twilight.

An unwonted depression of spirit took possession of me as I mentally reviewed the strenuous efforts that I had made to reward Mawson's faith in me. Every-

thing I had undertaken had resulted in dismal failure. The numerous conversations with the railroad officials of the nearby town of Miller had been of no value. Nor had two trips to the Gary office accomplished aught save the valueless discovery that a tremendous buck-passing contest was in progress there. No one connected with the railroad had the slightest knowledge of what it was all about.

In Chicago, the question of damage suits had been brought to the railroad's attention and the legal problems involved promised a pretty mess.

Mawson had been equally discouraging when I had talked to him over the telephone, calling from a pay station in a Gary drug store.

"The story has broken in all the papers, lad, save our own," he had informed me. "We withheld publication in the hope of printing a full account of the mystery simultaneous with its solution. But old John Q. Public has taken the whole thing as some fantastic yarn of the newspapers and the railroad. Even the testimony of those who saw relatives off on the train has been doubted. I am afraid the whole thing is hopeless, lad."

"It is not hopeless," I had retorted heatedly. "I have already found some proof that the incident actually occurred at Wickliffe, along with the discovery that other episodes of like nature may again happen." I then related the strange vanishing of the two cottonwood trees from the exact spot where Tompkins claimed the Limited had disappeared.

"Lad, I'm beginning to lose faith in my judgment," Mawson had said after listening to my account. "I thought that I had the makings of a fine story, at first, but it begins to bear some resemblance to phenomena which are distinctly outside of the province of a newspaper. Forget it all, lad; report to the office and then start your delayed vacation."

"So the practical hard-headed Mawson believes in supernatural phenomena, does he?" I had returned angrily. "Well, little Tracy promises you a common, ordinary, everyday explanation of the 'supernatural,' within forty-eight hours."

Now I more than ever regretted my rash promise to Mawson when I realized that I was not one step nearer toward the solution of the mystery than when I had descended from the train at Wickliffe, four days ago.

"Confound it," I cried aloud to nobody in particular. "Sherlock Holmes himself would have been puzzled here, and so would Craig Kennedy, Nayland Smith, Philo Vance, and all the rest!"

"What is it, son, that would perplex all the great detectives of fiction whom you have named?" asked Mr. Blakely who had just entered the room and seated himself, unknown to me. As I turned and met his eyes in surprise, I noticed that he looked tired and worn, but there was an odd gleam visible in his eyes as he peered over his spectacles at me and continued. "Surely, it would be a stupendous problem, son, that could baffle the possessors of such giant intellects as those you mentioned!" He smiled amusedly.

My weariness and disgust with myself made me an easy prey to sympathy.

"I'll tell you all about it, Mr. Blakely," I announced desperately. "In the first place, I did not journey to Wickliffe Station and Ogden Dunes for a vacation and the study of plant life as I informed you three days ago, although it is true that I am a newspaper man. The real reason for my presence here is that I was ordered here to solve the mystery of a disappearing train for the benefit of the paper. The train was the South Shore Limited that runs on the electric line over by the highway."

"Odd, very odd," commented Mr. Blakely. He looked at me intently. "Just where did this train disappear?"

"Well, the general public believes that the train vanished at Tremont, seven miles up the line toward South Bend, but as a matter of fact, it made its exit from existence, or was stolen, here at Wickliffe."

I was surprised at the growing tenseness of the elderly man's attitude and manner.

"Were there many people on board the train?" he inquired with evident difficulty.

"To the best of my knowledge, four coaches filled with people," I replied.

"Young man, could you tell me, as nearly as possible, the time of the train's disappearance?" Mr. Blakely's countenance indicated that he awaited the confirmation of something that he feared to hear.

"On Monday afternoon of this present week, at exactly ten minutes to five, according to the story of Tompkins, an electrician who claims he was an eyewitness," I replied to his faint question.

Mr. Blakely rose to his feet with horror written across his usually benevolent features, over which a dreadful pallor had spread. *"My God! What have I done!"* he cried in a faltering voice and fell unconscious to the floor!

CHAPTER V

A Remarkable Discovery

A thousand conflicting thoughts rioted disconcertingly through my mind as I paced restlessly across my upstairs bedroom floor a few hours later. Was it possible that Mr. Blakely held the solution of the vanishing train mystery in his hands? My excitement at the thought was overshadowed by my horror as I remembered the appalling words he had cried out as he collapsed upon the floor before my very eyes! What could those amazing words mean but that in some dreadful manner, he had caused a terrible catastrophe?

When Mr. Blakely had fallen in a faint to the floor of the front room, I had carried him to a sofa in one corner and waited a ten minutes that seemed an eternity before he had recovered consciousness and sat up weakly. At the time, he volunteered no explanation of his behavior beyond murmuring something about heart trouble of long standing. I had accepted his explanation quite without the distrust and skepticism that later arose, and now held full sway in my mind.

I thought of Helen, my new-found love, and I cried aloud in despair. What was *her* part—what rôle did she play in this mad affair? Was it possible that she had been a party to the occurrence that caused her father such evident sorrow?

I groaned at the fate that put me on the brink of a solution to my mystery, and yet, at the same time, denied me my obvious duty, did I achieve its unraveling. What price duty, if it were to adversely affect the girl that I had learned to love?

I heartily cursed my intuition, remorselessly impressing upon me the knowledge that in the Blakelys lay the solution of my mystery.

Suddenly I paused in the center of the moonlight-filled room. A daring idea had come into my mind. I would investigate the nocturnal habits of Mr. Blakely, now that I was assured that he was concerned in my mystery. I must find out the nature of the work that kept him occupied and out of sight in his basement the greater part of the time, as Helen had informed me.

With this resolution in mind, I again donned the brown knickers and striped sweater that I had taken off as I partially disrobed before retiring for the night. Then I crept cautiously from my room and descended the stairs to a deserted first floor. Hesitating but momentarily, I proceeded to the rear of the cottage.

As I opened the door of the stairway leading to the basement, the sound of muffled voices came to my ears. Stealthily, I descended the steps, moving more cautiously than ever. But my eyes, becoming more accustomed to the deeper blackness prevailing within the basement, revealed to me only the usual furnace and equipment that one associates with basements in general. Not a ray of light was visible.

But the voices began afresh. I recognized the tones as those of Helen and her father, but the conversation was indistinguishable. Despairing of overhearing and understanding any portion while I stood crouched in my present position, I

moved toward the center of the cellar and very nearly dropped in surprise. For now I realized that the conversation was coming from beyond the forward cement wall!

"But father, we must explain to him; he will understand," floated the voice of Helen to my eager ears.

"No, Helen," came Mr. Blakely's reply. "He would not understand. Yet even if he did, I should be exposed and branded as the murderer of dozens of people!"

The amiable and benevolent Mr. Blakely a murderer! My brain refused to accept his own words that had come to my ears. I had grown suspicious that he was concerned in this matter, through his own actions. But that he had committed murder—I listened again in horror.

"But you are not to blame, father," entreated Helen. "How could you know what would happen? Besides, you are not entirely certain that his story is true."

"It is only too true, Helen. Those newspapers you secured have proven that beyond all doubt. By my own hands, I sent dozens of people to their death through complete annihilation!" His voice, coming to my ears, seemed to falter for a moment, then he resumed. "No, I am certain that I was the cause. Nevertheless, we must leave the world as we had planned!"

I could scarcely credit my ears again. My reason tottered as I grasped the significant meaning of his last words. Suicide! Helen, my dear Helen, was to die with her father because of a crime that he admittedly had committed!

A madness encompassed me and I strained and beat upon the cement wall in a futile effort to stop this terrible suicide that was undoubtedly about to take place.

Suddenly, there came a smooth whirring sound, and to my supreme astonishment, a ponderous section of the masonry swung open. My mad efforts in straining at the wall caused me to be violently projected inward, and I measured my length upon the stone floor of a brilliantly lighted chamber, the huge block of stone yawning open behind me!

CHAPTER VI

Editor Mawson Speaks

● I, Thomas Mawson, Editor of the *Chicago Daily Chronicle*, propose to interrupt the narrative of Walter Tracy at this point by the insertion of a chapter of my own personal experiences.

One purpose in so doing is simply to impress upon whoever reads this manuscript in the future the truth of the narration up to the present moment of interruption. The other, and more important purpose, is to furnish additional data which may serve to verify partially the seemingly fantastic chapters that follow in Tracy's account.

When the vanishing train story "broke," I had thought that the news value of the disappearance alone would be tremendous. But the newspaper files in the "morgue" prove how greatly I had erred in my judgment. The weird occurrence was simply too unbelievable for the general public to credit. Lack of any tangible evidence as to the whereabouts of the train, plus the strange reticence of railroad officials, added to the incredulity of the public, caused the entire affair to begin to take on the general aspect of a hoax.

I am now writing of the events which transpired on the Thursday evening that followed that particular Monday afternoon during which the story had been telephoned in to the office.

When Tracy had phoned Thursday, as told in his narrative, I had goaded the lad into renewed activity upon hearing of his lack of progress in the matter. But when he had angrily hung up the receiver, avowing that he would return with a solution within forty-eight hours, I realized that a solution itself would be practically valueless to the paper now that the public, outside of those personally concerned, had dismissed the thing as utterly fantastic. For once, real news ceased to be news!

Now, an editor of a large newspaper is commonly supposed to be a whirlwind of activity and a person without nerves or conscience. But in my own case, I am

neither of these aforementioned things. I am rather slow moving and thinking and possessed of nerves to the extent that all through this particular Thursday I had entertained the most uncanny premonitions of forthcoming disaster in connection with Walter Tracy. My conscience hurt me in that I had twice interrupted the lad's vacation, the latter time sending him on a fruitless mission.

Thus it was that, at about eight o'clock, I guided my motor car across the Chicago South Shore and South Bend railroad tracks, past Wickliffe Station and on into Ogden Dunes with a double purpose in mind. First, I wished to view the scene of the strange occurrence, on the morrow. But above all, I intended to order Tracy to abandon this now valueless story (valueless from the editorial point of view) and start his vacation. Perhaps I subconsciously reasoned that a day or so spent in the quiet dunes would have no particularly ill effect upon a harassed and worn editor!

I decided that should I find it impossible to secure a night's lodging at Tracy's temporary abode, I would drive back five miles on state highway twelve to Miller and the commercial house that I had seen as I drove through.

To one who spends many weary days amid the forced urgency and dispatch of a city newsroom, attempting to hold down a desk that fairly hums with activity, the night scene in Ogden Dunes was enchanting and restful—so restful. Overhead, myriads of stars, many of which are never visible within the sooty confines of a large city, twinkled. The well-defined band of star dust that extended across the vast heavens I recognized as the "milky way," and my imagination reeled as for the first time I really began to comprehend the appalling immensity of the space it occupied.

The winding cinder road I was to follow was illuminated with a soft liquid light from a radiant moon. A gentle and soothing breeze stirred restlessly as I drove slowly toward the little white cottage on the hill, anticipating Tracy's surprise upon seeing his editor out here!

But when I had ascended the long and difficult slope leading up to the pointed-roofed cottage, I was surprised to find the dwelling dark and seemingly deserted. Not a single light was visible in the windows of either floor.

I decided to return to Miller without disturbing the inmates of the house, who had doubtlessly retired early. I chuckled, however, at the thought of Walter Tracy, reporter and young man about-town, retiring before the usual wee hours of the morning to which he was accustomed.

Suddenly a muffled sound of conversation was borne to my ears, and to my amazement, the voices seemed to proceed directly from beneath my feet!

I stood irresolute for a moment and then stepped from the sidewalk that extended to the side entrance of the cottage, pausing by a basement window that opened upon the front slope of the hill.

There was revealed to my peering eyes a partially visible cellar, dimly outlined as it was in light that streamed out from a strangely offset room in one far corner.

Three figures were silhouetted against the brilliantly lighted interior, one of which I recognized as that belonging to Walter Tracy. But what really riveted my attention to the scene was the evident drama that was being enacted within the room. It was as though one individual, an elderly man, was endeavoring to force a young and beautiful girl into a large tank of some sort, while Tracy was clutching at them both in what seemed to be a futile effort to halt the accomplishment of that deed.

Of course, further reading of Tracy's manuscript will show how grossly I had misinterpreted the scene portrayed within the room. My error sufficed, however, to send me hurrying as fast as I could to the rear of the cottage in search of some means of entrance to the basement. Fortunately, I discovered that the door opening into the cellar from the outside was of that familiar type now fast disappearing from even country homes. I refer to

the two-sided and hinged coverings that lift upward and fold back and are seldom looked. Hastily throwing these divided portions open, I descended cement stairs and entered the basement.

The illuminated room was to my left, where a heavy door of cement and bricks hung ajar, suspended by pivots deeply set in the masonry. Through this doorway, I passed to the interior of the brilliantly lighted chamber, and the scene that now met my eyes was so unbelievable that I may well be excused for doubting my sanity!

● I doubt not that Walter Tracy's narrative, when it appears in print at some future date, will be received with the utmost skepticism and disbelief. Certainly, despite the astonishing incidents that befell me, I have found great difficulty in accepting the manuscript in its entirety. But I pray that what I personally experienced and am prepared to swear to may at least be believed.

Now while I had been primarily interested in the drama that had been enacted in the room when I had surveyed the scene from the front basement window, yet I had found time to survey and record in my mind the appearance of an immense cigar-like object that had seemed to be constructed of polished steel plates thickly studded with large rivets. This had been resting in the background.

I had formed no certain idea as to the purpose of this unwieldy and massive object that I had mentally classified as a monstrously large "tank" of some sort.

Here let me emphasize that no more than fifteen seconds had elapsed from the time that I had abandoned my position at the front basement window until I stood hesitant before the subterranean chamber. Yet in that exceedingly brief period of time, the most unbelievable changes had taken place.

The huge tank that stretched across one side of the large underground room was vastly different in appearance than when I had first viewed it. Gone was the smooth polished metal of the immense tapering construction. In its place stood a tank of nauseating aspect to the eye. A disgusting slime of chlorine hue covered its plates. Thick incrustations of some yellowish material thickened the greenish slime here and there. The tapering points of the tank drooped as though they had been subjected to intense heat of some sort. An erosion of years seemed to have taken place while I had hurried around to the rear of the cottage, producing the bent, battered, and corroded object in front of me!

My natural astonishment at the unaccountable sight was greatly increased by the disappearance of the three people who but a moment before had been in animated discussion within the room.

But then I noticed a confused nebulous glow emanating from the interior of the tank. Deciding that the persons I sought must be within its huge shell, although no sound could be heard, I was about to venture through the small entrance in the side when a powerful force seemed to encircle and paralyze me. A weird and uncanny thought-transmission conveyed words to my brain in the identical manner that Tracy has so vividly pictured in the later portions of his narrative.

There was silence in the underground chamber, but the entire interior of my skull vibrated with a message of bell-like clarity and resonance! Strangest of all, I had no difficulty in determining that the words were those of Walter Tracy speaking warningly!

"Your story is on the table in the center of the room, Mawson," came the clear and ringing message. "For your own safety, secure it and leave!"

I stood transfixed, absolutely incapable of movement. Then came another insistent message whose intensity conveyed anguish to me, but there was an astounding undercurrent of menace likewise apparent!

"In the name of God, leave this house, Mawson!"

Shaken out of the strange inertia which had gripped me, I sprang forward to the opening in the side of the tank. But be-

fore I could reach the steel object, the door that had been ajar slammed shut.

A powerful wind arising from God only knows where whipped my feet from under me. As I fell to the cement floor of the chamber, I had a momentary vision of the immense tank hanging in space and shrinking with appalling rapidity. Then it was gone—completely vanished—from within the solidly built room!

Dazed and bewildered, I stared about until my eyes fell upon a bulky sheaf of papers that rested on a small table near the center of the room.

Now, at this point, candor compels me to admit that an overwhelming terror took possession of me. Yet it is to this fear that I owe my life and am able to write these words.

Retaining just enough self-possession to remember the import of the amazing telepathic communication, I hurriedly secured the papers from the table. Then, succumbing to my fear and bewilderment, I ran out of the house and literally fell down the sloping hill in front to my car standing on the cinder road.

I paused breathlessly beside my automobile. After all, a middle-aged man of sedentary and sluggish habits, who has never adventured in his life, has a certain right to breathlessness and terror in the midst of action and the unknown.

While I was thus excusing myself for my precipitate flight, now that I stood in the clear and fear-dispelling splendor of the cool dunes night, the final astounding incident in this wonderful and amazing series occurred.

From every door and window of the two-story cottage, gleaming pallidly in the moonlight, burst forth intense flames! It was but a matter of moments before the frame house lay a smoldering ruin. Weirdest of all, the mighty leaping flames had been of an uncanny, beautiful color of deep purple!

Authentic proof as to the origin of those flames of supernatural color, that so instantaneously destroyed the white cottage, will perhaps forever remain a mystery. There is, however, a significant paragraph in the closing chapter of Tracy's manuscript, in which the distraught inventor, made desperate by the thought that he has endangered the lives of his fellow mortals upon Earth, predicts to Tracy the possibility of the destruction of their captors, once they again reach the laboratory. Still more significant is the tremendous fire, which, as Tracy tells us, the inventor forecasts—a conflagration that actually occurs!

But intelligence immediately points out a flaw in this otherwise excellent and satisfactory explanation, in the fact that the ponderous invention of soundest steel construction was never found among the ruins. And it is utterly impossible to assume that it, too, was completely destroyed!

I must, however, terminate this too-lengthy interruption for personal experiences that I have interlarded between the pages of this bewildering manuscript. The impatience of any who read this story in the future will be modified if they will only understand that my desire to clarify slightly the story and also furnish some modicum of additional verification were my guiding motives in the insertion of these lines. I shall have been amply rewarded if my belated interruption assists the reader to believe.

CHAPTER VII

Remarkable Revelations

I, Walter Tracy, lay supine on the cement floor of the secret chamber and endeavored to accustom my eyes to the unexpected glare of lights. Then, recovering from my momentary paralysis caused by my astonishment, I raised myself from the floor to one elbow and, yet unseeing, cried out:

"My God, Helen, I have heard everything. Do not let your father force you to commit suicide because of the crimes that he has committed!"

For some moments, there was silence, and then to my amazement, sounds of mingled laughter filled the room. Mr. Blakely and Helen were convulsed with

merriment. There they were, seated just in front of me and now plainly visible to my relieved eyes, evidently greatly amused at my sad plight.

The bizarre room in which I stood at once proclaimed itself as the workshop or laboratory of an inventor. Fully as large as the basement proper, it was filled with grotesque apparatus. On one side of the room stood a double row of six-foot glass tubes that resembled pictures of gigantic modern X-ray bulbs that I have seen, save that they were much larger.

Directly in front of the tubes there was placed an object which I took to be some sort of an electric gun, as it resembled an artillery piece in its mounting, and numerous thick cables led from the rear of it. Its long nozzle or barrel was aimed across the room toward the final apparatus in this strange collection, which was an elongated cylinder of prodigious size that occupied the entire other length of the room, which must in itself have stretched out twenty feet underground. Huge plates that tapered to two conical ends and were set throughout with monstrously large rivets made up the assembly of this ponderous construction. Undoubtedly, this immense object had been built to withstand pressures of some sort.

My eyes returned to Mr. Blakely seated in the center of this most unusual chamber. He was clothed in his customary suit of neat blue serge, although I had never seen the white working smock, which was open at the front, that he now wore over it.

Dark-haired Helen sat on a cushion thrown carelessly at his feet. She was wearing the purple dress that she had worn on the day of my arrival at the cottage and appeared more beautiful and goddess-like than ever.

"Mr. Tracy," said the elderly man quietly, "you must pardon our amusement, but your unexpected appearance and dramatic utterance quite startled us. You have all the instincts of a true detective." He adjusted his spectacles and surveyed me through them curiously, it seemed, and then continued. "You may rest assured that Helen and I have no intention whatever of committing suicide."

I made a quick yet difficult decision. "Mr. Blakely," I said boldly, "if the solution of this mystery that I was sent down to fathom rests in your hands and if its exposing would result in anguish to you or Helen, then, as far as I am concerned, it will be my duty that suffers, not you." Here I am sure a rosy glow of embarrassment diffused itself over my face. Nevertheless, I continued determinedly. "Believe me when I say that only my interest in Helen prompted my actions tonight, not duty to my newspaper." Thank God Mawson was not there to hear my apostasy!

A dazzling smile from the radiant Helen was ample reward for my temerity. "If you will explain everything to Mr. Tracy, father," she urged, "I am sure he will understand that you are blameless for anything that might have happened."

"Well, young man," said Mr. Blakely slowly and reluctantly, "the explanation that my daughter insists upon, and which I admit the situation seems to demand, must begin with your verbal introduction to my brother, Horace Blakely.

"Horace and I were educated at the same eastern college and received our B.S. degrees, bachelor of science, together. Upon our graduation, Horace, who had proven himself the most gifted student of science in the institution, received an offer of an associate professorship in a small southern college. He accepted doubtfully and was separated from me for quite some time. Of course, I received a few letters from him at long intervals. The very last one informed me that he had taken examinations after the proper teaching experience and received doctor's degrees in science and in arts.

"In the meantime, I had come West, finally locating in Ogden Dunes here, where I built this house to insure quiet and solitude for undisturbed work on the inventive side of science. Naturally of a slow methodical type, I am more suited to that pursuit; moreover, I am trangely

lacking in the ability to materialize abstract speculations in the brilliant manner that has always been characteristic of Horace.

"But my happiness at our mutual success in our chosen work (I had sold partial rights to a number of minor inventions which had made me practically independent) was soon tempered by the sad news of my brother's untimely death.

"When I finally returned from his funeral, I brought back numerous papers and pamphlets upon which he had been working lately. He had very evidently been on the point of submitting these papers to me, but he had delayed too long.

"These articles, in their speculations and in the concrete specifications included with the speculations, I have as faithfully followed as was my brother's intention. The apparatus which you see before you is the result."

"I have heard of Horace Blakely," I broke in reverentially. "I remember once, when I first started work on the paper, the magazine section published a series of articles which he had written, dealing with the atomic structure of matter, or something like that. I guess he started a lot of trouble and argument among other scientists. Didn't they claim that he held radical ideas?"

Mr. Blakely nodded his head affirmatively and answered:

"Roger Bacon, conceiving and outlining the construction of a telescope three hundred years before its birth in the hands of Lippershey, was no more in advance of his generation than my brother Horace in his acute discernment of the true structure of that infinitely small world comprised within the atom. Had he permitted publication of his astounding discoveries regarding electromagnetic radiation alone, his name would have become familiar throughout the length and breadth of our country. Many a time in school, too, I have heard him expound at length upon the difficult subject of nebular atomic radiation and point out the possibility of rays of much shorter wavelength than any known at present." Here Mr. Blakely paused, carefully adjusted his spectacles, and continued: "Now what I must run through in some detail may seem a trifle tedious to one who doubtless knows little of science, but it will all be necessary in order that you will understand just how my apparatus caused the terrible occurrence of the vanishing train, which I so grievously regret.

"For many years, man probed the heavens and marveled at the vastness of the panorama displayed before his eyes. But not until he began to investigate the smaller units of matter did he comprehend the infinite variety and richness of the tiny units and, most important of all, the *unlimited possibilities* of them.

"At first, however, we knew of minute grains of matter called molecules, which were thought indivisible. So small are they, that were the molecules in a pint of water placed end to end, they would encircle the earth 200,000,000 times!

"Knowledge of their minuteness caused the great Lucretius to once hold that they were the smallest particles of matter that we could break up. But science advanced and proved him wrong with the now simple breaking up of water into its hydrogen and oxygen atoms by means of the electric current, or electrolysis, as it is called.

"Now, of course, the scientific world knew of ninety different kinds of these tiny atoms. But Horace had discovered two more and he had made calculations that enabled him to state that these ninety-two kinds of atoms make up the entire structure of all matter as we shall ever know it!

"But now I am coming to the very difficult subject of the structure within the exceedingly tiny atom itself, and there I have only my brother's notes to guide me. Horace had warmly seconded the now familiar hypothesis that had been advanced by Sir Ernest Rutherford in 1911 as to the structure of the atom. That theory was called the 'planetary theory' and held that an atom was composed of a nucleus and electrons. The nucleus was supposed to greatly resemble our sun, and

the free electrons, which varied in number according to the kind of atom, played the part of planets.

"Later, when the planetary atom theory was held to be partially superseded by the 'wave atom' theory, Horace became exceedingly angry. His notes abound with pointed sarcasm and irony directed at those who should be able to see the atomic structure of the infinitesimal suspended in the heavens high overhead, as in the solar system, yet blindly continue to wax eloquent in the abstract. Horace declares, and certainly I am to have the opportunity of proving by virtue of his notes and my small capacity for inventiveness, that the infinitesimal will prove all problems of the infinite, or *vice versa*.

"Well, as directed in my brother's notes that enlarged upon additional energy to be found within the atom, I conducted prolonged and varied experiments upon the substances whose weight is above eighty-three in the atomic scale. The purpose of this was the hastening of radiation in those particular substances. But my experiments were nearing an end as I finally placed a minute quantity of a newly isolated substance beneath the bombardment of my double bank of improved X-ray tubes.

"Now I shall avoid technicalities and detail and try to make the final result of this last experiment clear to you. By the hitherto unheard-of feat of accomplishing the coalescing of a proton and an electron in a substance as yet unknown to the scientific world, but whose weight is eighty-five on the atomic scale, I caused the birth of a new vibration! This ray is of much shorter wave-length than cosmic rays and of infinitely greater power and potentialities!"

● I am a great reader of the Sunday magazine section of the newspaper. While not particularly given over to the reading of scientific details, I nevertheless enjoy the popularized accounts of scientific advancement printed for the consumption of the lay reader. But here, related by the elderly Mr. Blakely in a matter-of-fact voice, were miracles far exceeding those predicted by a great astronomer in a prophetic article that had taxed my imagination to the limit!

"I read last week that the synthesis of cosmic rays would forever be impossible to achieve in the laboratory," I remarked impressively. Fortunate that I had read that article and could strut at least a smattering of scientific jargon to impress Helen. "Meyering claimed that they originate in the interior of nebulæ and are—ah—products of extreme temperature," I concluded carefully.

"According to theoretical calculations," replied Mr. Blakely seriously, "the coalescing that takes place in this substance resulting in the liberation of a quantum of energy subject to the X-ray controls requires a temperature of over three billion degrees on the absolute scale! Yet such is not the case. The explanation is simply one of those mathematical paradoxes with which science abounds. Beyond a certain point, the calculations of temperatures which are required to produce rays of extremely short wave-length and high penetration prove to be fallacious as we know them!

"Well, to continue my explanations, which I am shortening as much as I conveniently can, I have told you that following my brother's notes, I isolated a substance whose atomic weight is eighty-five, for he had written to experiment with either the new substance when I had isolated it or work with an isotope of mercury which was eighty in the scale and 200.016 in atomic weight. But the building up of the mercury atom having proven far more difficult, I preferred to concentrate on the new substance.

"On that memorable afternoon, many months ago, I had no sooner touched one nervous hand to the rheostats controlling the X-ray bank than it seemed as though the end of the world had come. A blinding flash of intense white light filled this room. A wave of heat that resulted from the sudden incandescence struck me and I was thrown violently backwards. And as I fell to the floor, I saw the basement

wall facing the X-ray bank seem to melt away into nothingness! I remembered this as a sort of dreamy delusion when I regained full sensibility. But upon investigation, I found that it had not been an illusion and that not only had one portion of the basement wall vanished away, but a great slice of the hill outside, as well!"

"My God, Mr. Blakely," I cried open-mouthed. "Is that how the train disappeared?" Even in the midst of my astonishment at his words, I nevertheless groaned inwardly at the thought of carrying this fantastic story to the practical and hard-headed Mawson!

"No, I am coming to that shortly," replied the elderly experimenter shaking his head in negative fashion. "The incident that I just related to you occurred over a year ago. But from that moment on, I realized that the possibilities of this peculiar short-wave ray would be fully as great as Horace had predicted. Altering electronic orbits and breaking up the nuclear arrangement of the atoms would now be simple to accomplish. Acceleration or retardation of radium radiation was at hand!"

During the short silence that followed, I drew out a cigarette and lit it with nerveless hands. I was making a heroic effort to maintain a nonchalant attitude in front of Helen who smiled amusedly upon me, evidently sensing my bewilderment. Indeed, my mind rebelled at accepting his story. These powers that he outlined were too near my conception of the Almighty powers possessed by the Creator!

"You don't believe, Mr. Tracy?" inquired the inventor peering over the top of his spectacles toward me.

"Well," I replied hesitatingly and then my eyes met those of Helen who doubtlessly awaited confirmation of my faith in her father. "Yes, oh, yes," I continued hastily. "I am simply a little—er—bewildered, that's all!"

"Now there is just one thing that I would impress upon you, young man," resumed the elderly inventor, "and that is, the guiding purpose of my brother's notes and my motive in following out those notes with practical inventions of my own is entirely for the purpose of proving the truth of his contentions in regard to the inner structure of the atom.

"So about a month ago, the large cylinder which you observe across the room was delivered to me by the Outland Steel Company. It was constructed exactly according to my specifications and was assembled in this laboratory. Of course, you understand that I am speaking of the hollow steel shells only. Naturally the interior of the cylinder embodies my own work and inventions solely." Here the inventor leaned forward and placed one hand upon my knee. I saw that he wished to impress me with the importance of what he was about to say, and I listened intently.

"Now the purpose to which I intended to put that cylinder required that operations be undertaken to endow it with the essential energies. I determined to complete the activation in two steps. The first step took place at ten minutes to five last Monday afternoon, for I particularly noted the time by the laboratory clock on the wall as I placed my hand upon the switch that controls the X-ray bank. The next step took place the following morning when I resumed work at about nine o'clock.

"Great was my astonishment when, in carefully testing the cylinder, I found that no activation had been accomplished! Feverishly I checked my calculations. I was amazed and horror-stricken upon discovering that I had made an incomprehensible mistake in copying certain mathematical formulæ and that, *instead of building up controlled atomic energy, I had reversed the process and hurled an annihilating power that I figured came to a focal point over half a mile away* in the direction toward which that artillery-like apparatus, which you see there, points." Mr. Blakely indicated the electric gun and continued: "When you informed me that on Monday of this week, a train had vanished from the Chicago South Shore and South Bend tracks opposite Wickliffe

Station here, I began to suspect, for it was last Monday when I commenced the initial step in activation. But when I inquired the exact time of disappearance and it coincided with my laboratory time as I had thrown the activating switch, I was horror-stricken, as you observed."

"And all those people were annihilated by your ray!" I cried comprehendingly—vanished as completely as the electric train itself was the suppressed expectation that I had entertained of scooping the other city papers in exposing a deep and diabolical plot of some sort. I groaned in dismay as I realized that three days of wearisome investigation, instead of delivering a master-mind or an archfiend of crime to justice, had netted me but one elderly and kindly inventor, as innocent and blameless of crime as a newborn babe, despite the frightful catastrophe he had caused!

● Then another disappearing incident came to mind. "That explains another thing too," I stated dejectedly. "Didn't you say that on the very next morning you again operated that switch?"

"Yes, at about 9 A. M. by the laboratory clock."

Briefly I told about the narrow escape Tompkins and I had experienced, thrilling gladly upon hearing Helen's little cry of fright for my safety as I told of our proximity to the vanishing cottonwood trees.

"That particular manifestation of energy had a very definite point of focus which accounts for the fact that stumps of trees and rails were undisturbed, but it mushrooms out in beams of varying width, once engulfing an entire train, as we know!" replied the inventor to a question of mine. He removed his spectacles and polished them vigorously. I beheld traces of moisture in his eyes. "God knows that I have paid in remorse for my terrible mistake that sent all that humanity to an instantaneous death or into some unexplainable and unfathomable destiny."

"You are not to blame any more than Wright is to blame for all the machine gunning and bombing that airplanes do in war," I stated sympathetically. "And think of the numberless people that suffered a hideous death in the early days of the X-ray. Was Roentgen to blame?"

I received another generous reward in the glances of gratitude that were given to me by both Helen and her father. He then continued his revelations which I began to understand promised investigations that would make any that I had ever conducted seem tame and purposeless by contrast.

"Well, as I have told you, I had constructed that cylinder for the express purpose of proving the truth of Horace's notes and theories. I therefore continued my activation of the cylinder, but this time only after I had checked and repeatedly checked my calculations. So, from last Wednesday morning until this very Friday afternoon when I left the laboratory and talked to you in the front room upstairs, the cylinder has been charging, as it were, with very unstable, yet controlled and potential, atomic energy. The process is now completed and the cylinder is ready for my purpose." Mr. Blakely, followed by Helen and myself, arose and walked over to the huge cylinder. He stepped through an opening in the side of the invention and touched a button. Immediately, the interior became brightly lighted, and Helen entered. I hesitated a moment and then rejoined the two within the steel shell although I experienced vague feelings of misgiving as I did so.

"Mr. Tracy, you now see my masterpiece," said the inventor smiling. "You are in the first invention of its kind in the world!—an atomic machine—a thing that has been discussed for years, but never really expected."

"What is its purpose?" I questioned interestedly.

"What would you say if I were to tell you that this cylinder, interior and exterior, has been expressly designed to conform to all conditions that might be encountered on a trip—let us say—to the moon?" asked the inventor, "and that

up there in front were the instrumental controls that would make such a journey possible?"

I had been gazing around the submarine-like interior, wondering at the rows of tiny glass tubings that encircled the cylinder near the center and the curious apparatus fastened to the cushioned walls, but glanced to the forward point that he indicated. There my eyes rested on an oddly familiar object. It was a curving desk greatly resembling the consoles that controlled those mighty organs that were formerly so popular in the theaters, save that shiny black knobs and neat glass dials, under which trembled and oscillated needle-like indicators, studded the panel.

"I would say that it was all certainly wonderful enough," I replied admiringly. "But you don't really mean that you can attempt interplanetary travel in this atomic machine, do you?"

"Certainly, although in this particular instance the correct term would be interelectronic travel! But as Horace has said, there is nothing in the infinite that the infinitesimal will not prove, and while it would be just as feasible for me to rearrange electronic orbits and enter the worlds of vast magnitudes and immensities of space, it is only the infinitesimal that I wish to enter and seek proofs that atoms and electrons are discrete entities."

● I struggled with mingled emotions of interest, amusement, and awe. Not being able to steady myself to any single attitude, I appeared, therefore, to be accepting the whole thing with remarkable poise of manner. "And how do you expect to enter the atom?" I inquired diffidently.

"By bringing into actual use controlled atomic energy whose liberation from a radioactive substance and storage within the cylinder was initially accomplished by my newly discovered and powerful ray of ultra-short wave-length. The result will be a continuous variation of electronic orbits. By means of my control console, the cylinder and all within it will be instantaneously adjusted to occupy the exact amount of relative space desired. One knob on the console takes care of that. The other knobs are simply for the purpose of directing the invention to whatever particular portion of relative space we wish to occupy. This should also explain to you why two steps were necessary when I activated the cylinder. Briefly, one activation controls relative size, while the other controls actual movement of the invention."

I flushed as I realized how I had been deceived a short while before. "Then when I heard you refer to leaving this world, you were intending to explore the atom and not—"

"Commit suicide?—indeed not!" interrupted Mr. Blakely chuckling. Then his countenance became serious as he continued. "No, Helen and I were afraid that in some manner you would interrupt the mission to which we have dedicated ourselves solely—the task of proving to our own minds, and later to all the scientific world, the truth of my brother's notes and theories, particularly in his maintenance of the planetary theory of the atom."

Now there is nothing on which I so pride myself as I do on my capacity for quick decisions. "You are determined to attempt the exploration of atoms in this invention?" I inquired thoughtfully.

"Tonight!" came the calm reply.

"And — and Helen is to accompany you?"

"Yes; she is a dutiful daughter."

"The possibilities of death or disaster are tremendous, I suppose?" I asked, eyeing the cylinder dubiously.

"The dangers of the unforeseen may prove to be many," replied the elderly inventor gazing intently at me.

"Then I am going along!" I announced determinedly, upon which Mr. Blakely and Helen could only look their astonishment at this unexpected development. Emboldened by Helen's radiant countenance, I continued: "Remember, I came out here to investigate a mystery and decided that, as far as the newspaper and I were concerned, the assignment would re-

main an unexposed mystery. Then I find the two people, who influenced me in this rash decision, on the very brink of investigating infinitely greater mysteries. Naturally I believe that I possess the right to accompany them!"

Mr. Blakely seemed not unwilling to have a younger and more active person accompany him on his projected exploration of matter, but insisted upon detailing scientific hazards that might be encountered, as a point of justice to me. But I delightedly reminded him that any dangers whatever only rendered the presence of a third and responsible party more necessary. Whereupon he reluctantly consented.

"By the way," I remarked surveying the invention importantly, now that I was a legitimate member of the scientific party, "have you a name for the machine?"

Mr. Blakely smiled tolerantly. "I had not thought of naming the cylinder, Mr. Tracy. I have really been far too occupied with its construction, and the question of a fitting cognomen never occurred to me."

I turned to Helen. "Have you thought of a name for the invention?" By way of reply, the beautiful, dark-haired girl shook her head negatively. "Well this thing just has to have a name," I insisted, in mock earnestness. "Let's see now, the purpose of this exploration is to find proof of scientific theories. Now what was it that Greek man of science said when he stumbled across proof of something that he had been trying to prove for a long time—what *was* it he said?"

"Eureka! I have it!" replied Helen smilingly.

"Have what—a name?"

"No, I merely said the phrase that your scientific Greek uttered upon making his discovery, 'Eureka! I have it!' Weren't you referring to the story of Archimedes and the king's request?"

"Sure enough, Eureka!" I replied shamefacedly. "That's what I was thinking of. Well, there's your name; it's as good as any, I guess." How the devil did I always succeed in making mistakes just when I wanted to impress Helen most?

Now the cylinder was the *Eureka*—a wonderful invention, and the result of wonderful discoveries was the *Eureka*, yet it was but the medium of far greater discoveries to come!

CHAPTER VIII

Into the Infinitesimal

● It was an exceedingly tense moment indeed, when Helen and I stood beside Mr. Blakely after he had seated himself at the console control in the forward point of the *Eureka*.

"I could easily prove to your satisfaction," he was saying, "through involved mathematical calculations, that you need not expect the slightest physical sensations when our instantaneous change, from the normal amount of relative space which this cylinder occupies at present to the infinitesimal space that it will occupy in a moment, takes place."

"And why is that, Mr. Blakely?" I asked intently. Doubly welcome to me would be any assurances of safety and comfort to Helen. She stood quietly beside her father, one delicate white hand placed affectionately upon his shoulder.

"Well, it is a question of nerve impulses and the relative distances that they travel, my boy. The nerve impulses in our bodies require about a tenth of a second to become effective, inasmuch as one impulse is transmitted to the brain at about 3,000 cm. per second. But by that time, we shall have passed through the separate yet merging stages of molecule and atom! We would be annihilated forevermore did I rely upon my poor, slow traveling nerve impulses to stop our diminishing size after our start! It is therefore necessary to have an automatic device that will stop the electronic rearrangement in thousandths of a second after it is started!"

I stared in amazed disbelief at the inventor and then shook my head resignedly. It was all quite beyond me. But if he could figure all that out and then take precautions against its happening, why, he could do anything!

"Of course, when we arrive within the

atom during those thousandths of a second," continued the inventor, "and we maintain relative size with our surroundings, the same rate of physiological changes should prevail as in our own world. It is all based on the relative ratios of the very small and the very large."

I frowned meditatively. "I begin to understand a little. As you reduce in size, you reduce speed of reactions and such in proportion."

But heaven knows that we were to learn that not even mathematics could give correct indications entirely as to the astounding conditions that prevailed in the world of the infinitesimal!

"Quite so, my boy," replied the elderly inventor. "The calculation is 10^{88} to 1, using exponential figures. All lengths and times are reduced in proportion." His eyes glowed behind his spectacles as he continued. "And now, Helen, if you and Mr. Tracy are quite ready, we shall be off!"

"I am ready, father," replied Helen bravely, glancing expectantly toward me.

"I am ready, too," I answered firmly, knowing that wherever Helen ventured, I must, and would follow. Really, had her father invented a machine that would transform us all into monkeys and had she consented to the action, I should have done likewise!

Mr. Blakely touched a small black knob on the panel of the console and the massive steel door through which we had entered the *Eureka* slammed shut. The impact vibrated the ponderous cylinder as I gasped in astonishment at the terrific power of the action. Quite evidently, the immense force that controlled this invention was no joke!

He reached out to the panel and touched another control knob. "I have started a tiny apparatus that generates heat in the *Eureka*," he said. And indeed a decided warmth began to force itself upon our attention. As the heat became unbearable, he very gingerly touched a larger knob and the unbearable heat instantly ceased and we became conscious of a slight chilliness in the air.

"Well, we are there," he announced quietly, looking up at us.

"Wonderful, father; now everything will be proven," said Helen excitedly.

"What do you mean—'we are there'?" I asked curiously.

By way of answer, the inventor again touched the controls, and a series of panels that extended along the sides of the *Eureka* snapped open revealing square openings through the double walls of the cylinder, inset with extremely thick windows of glass which permitted us to view outer space in whichever direction we desired.

The black immensity of space that extended on all sides was dotted throughout with countless twinkling points of blue-white light. If we were really suspended in space within the atom, it certainly bore a remarkable resemblance to our own starry skies!

"As you can see, we are motionless in the midst of inter-atomic space," said the inventor. "And I can safely assert that my brother's theories are at least partially proven already. For I directed our course, previous to the start, to the vast spaces within a small neon-filled bulb of glass, placed on the laboratory floor! And this sight is exactly what could have been expected within a molecule of rarefied gas.

"Now I propose to travel truly immense distances with incredible rapidity and enter a small quinine tablet which is placed beside the gas-filled neon tube!"

A neon bulb and a quinine tablet! These amazing experiences were certainly unparalleled and appalling in their significance! Fortunately, there are God-given brakes that clamp down upon the imagination when it threatens to become unruly and unseat reason. Therefore, I believe that all three of us ceased to judge or accept as we were accustomed to do normally, through the action of that very real limit to comprehension. I know that, for my own part, after a short period of straining to comprehend these impossible things, I gave up and accepted these events as simply so—that was all.

The wonderful *Eureka* hurtled onward

through space, guided by its calm inventor seated at the controls. He had darkened the previously brilliantly illuminated interior, explaining that it was very necessary for our continued safety that the exterior space be plainly visible.

A moment later we had reason to thank heaven for his foresight, for an enormous sheet of what appeared to be tumbling flame writhed suddenly out of the black space and streaked toward the *Eureka!* Instantly the inventor touched a knob and the cylinder jerked to one side sufficiently to allow the terrible mass of flame to flash past! This came to be a most frequent occurrence.

The twinkling points of light scattered throughout space began to diminish in size and their feeble rays waned steadily before the magnificent spectacle that gradually developed in the void. Giant suns swam into view, huge blazing spheres of incandescent flame. And around these slowly moving suns rapidly sped myriads of darting balls shining with reflected light originating in the colossal suns. There was a terrible and fearful activity apparent in the imposing spectacle. Frightful indeed were the powers that guided suns and planets to such unwonted activity as was now portrayed before our eyes.

"It is true that there is a marked resemblance to the familiar planetary system of our own universe," said Mr. Blakely, intently gazing at the fearful, yet beautiful sight. "But there is a prodigious celerity and energy that stamps this atomic universe as being markedly different. Yet it is understandable enough."

"But where are we, father?" inquired Helen softly.

"I am certain that we have entered the outer fringe of the quinine tablet, for nothing else was near enough to the neon bulb in the laboratory, nor could present such a spectacle to our eyes."

● I do not claim to know at what meteoric speed the *Eureka* traveled, nor had Mr. Blakely himself, as he had said in reply to my question, more than a hazy idea; but I am positive that we traveled through a number of systematic universes that consisted of giant suns and darting planets. Each of these universes bore a remarkable resemblance to one another.

Finally the inventor broke the silence. "It has been amply proven to me that the planetary system prevails throughout an infinite succession of universes. But the incredible activity and irregularity of the atomic worlds will be explained in no other way than by landing upon and investigating one of these electronic planets that dart around the sun nucleus!"

"You are not going to attempt to land this cylinder on an electron, are you?" I asked doubtfully. "How do you know that conditions are just right, such as atmosphere, temperature, and things like that?"

"It is a chance that I must take, my boy. The hazards are not so great as you might at first thought suppose. For surely where astronomical conditions are so similar to our own, with the exception of increased activity, there must be physical similarities likewise. After all, the electron is a sphere and comparable to our earth.

"Then, too, we have all the resources of the *Eureka* at our command: manufactured air, heat, and useful electricity. And should the conditions upon one of these electrons prove unsuitable to exploration, we can speedily withdraw."

"Nevertheless, I don't think that we ought to land this," I began hesitantly.

"But why, my dear young man?" interrupted the elderly inventor impatiently. "One of my motives in the construction of the *Eureka* was to enable me to make a complete exploration of an electron and determine whether or not it supported life, and gather data about the forces prevailing thereon."

I made no reply. How could I reveal my secret fears for Helen's safety? But after all, perhaps these vague worries based upon my affection for the lovely Helen would prove entirely groundless. I turned silently to a square window in the cylinder wall and stared out.

The gorgeous spectacle held me spellbound. Our poor Earth's astronomy paled into complete insignificance beside the view of these majestic and brilliant suns around which darted and circled the countless glowing spheres.

As my eyes became more familiar with the magnificent sight, I began to distinguish a wealth of radiant stars in the remote distance. These skies were fairly ablaze with light and astir with activity!

Suddenly a number of new giant suns appeared in the distance. Simultaneously the brilliant suns that oscillated majestically nearer us abruptly jerked through their circling electrons and sped toward the gigantic stranger suns, which must in themselves have been approaching with terrific rapidity! Then the electronic spheres flashed out into space in every direction and vanished!

I spoke to the inventor who was seated at his controls, watching the changing scene intently. "What does it all mean?" I asked curiously.

"Some amazing change is taking place in the electrostatic attraction of the atomic universe, I believe," replied the inventor tensely, "and I am afraid that those giant suns speeding toward one another in two groups are going to collide!"

"What will happen if they do, father?" asked Helen nervously.

"I am afraid that a mighty incandescence will develop. Huge fingers of flame will reach out through space and destroy the *Eureka!* At least I cannot doubt but that is what would take place in our own universe, were we back there."

A horror tore at my brain as I watched the frightful spectacle of great bodies, whose immensity could only be imagined, hurtling toward one another, to their own and our destruction! Closer and closer they drew together, their speed perceptibly increasing. At last it was easily apparent that a collision was impending and certain to take place. Instinctively, we clasped hands. How tiny we were and how helpless to accomplish aught to save ourselves from certain destruction!

Suddenly I turned to the inventor, a feverish idea in mind. "Can we speed in the opposite direction to this collision and save ourselves?" Perhaps there was hope yet.

"We could not conceivably cover enough distance to convey us beyond the reach of the smallest of the flames that will reach out to engulf us," was his solemn answer. "I am afraid that we have but a few moments of actual existence left!"

The words plucked at my heart. I was to lose my beloved dark-haired Helen!

"Dearest," I cried, clasping her small white hand tightly. "If we have but a few moments to live, I shall use them in the way that my heart dictates. I love you, Helen!"

"I know it, Walter," she replied softly. Her great glorious eyes lifted to mine and she, too, clasped my hand more tightly. "I knew it was to be from the first day that we met."

Then we waited, an awed group, for the mighty incandescence of collision and the sweeping onrush of flame that would engulf the *Eureka* and all within it!

The meteoric suns grew to incredible dimensions, finally obscuring half of all visible space. The incandescence became blinding; we could no longer view our approaching doom.

The walls of the cylinder grew exceedingly hot, a stifling and unbearable herald of the death-dealing temperatures that were to come.

Suddenly, a maelström of force seized the *Eureka* and I felt it gyrate giddily. Then, as abruptly as it had begun, the whirling motion ceased. Some moments passed during which we three awaited, with averted gaze, our doom.

Finally I ventured to raise my eyes from the floor of the *Eureka* and peer out into space. There, instead of the many blazing globes of incandescent gases, hung a single gigantic sun of irregular shape and glowing with a dull red color! Its shape was weird indeed. Were a number of cannon balls piled together and fused into one single mass, it would greatly resemble the bizarre sun suspended before

us that now occupied nearly all of visible space!

For some time we were silent, too moved at our narrow escape to give words to the thankfulness that prevailed in our hearts.

Finally Mr. Blakely spoke.

"Had I not lost my presence of mind upon viewing that awe-inspiring sight of immense suns rushing to collide, I would have been able to assure you that you need not expect incandescence in the atomic heavens. Higher mathematics will bear me out when I say that strong cohesion and astonishing hardness are to be expected in the world of the atom. At any rate, that gigantic conglomeration of matter is now a neutral atom composed of numerous bodies whose cohesion and hardness surpass anything in our own universe. But one thing that I cannot understand is the strange lack of electronic satellites."

"Look, Mr. Blakely," I called from the window panels. I motioned out into space. Far away on the border of the giant irregular sun, a tiny sphere had appeared, oscillating first in one direction and then in another. "I wonder what change took place in the quinine tablet on the floor of the laboratory that the atomic structure of this universe was altered so rapidly," I continued thoughtfully.

"No change whatever," replied the elderly inventor smilingly as he set the course of the *Eureka* toward one of the oscillating electrons that fringed the gigantic sun. "The wonderful sight which you observed could have been no more than the slightest surge of electrostatic tension! For had that been an actual change in the quinine tablet on the floor of the laboratory, we would have been forced to hang millions of years in space to witness its accomplishment, although the actual change in the laboratory might be a matter of split seconds!"

● I was silent. Such a statement was simply too much for my imagination to fully grasp. Nor did I realize the tremendous import of the reverse of the statement. I did not comprehend that if instantaneous changes in a substance on the laboratory floor took millions of years for their consummation in this atomic universe, the reverse was equally true, and millions of years in this atomic universe required only split seconds in the laboratory! How this affected us will be shown later.

Now the *Eureka* darted to one side as the alert eye of the inventor glimpsed another of the somersaulting sheets of flame. The strange energy writhed past, accompanied by its usual loud hissing sound as the inventor resumed speech.

"Among my brother's notes were calculations that involved figures of considerable magnitude. These calculations were the basis of a complete textbook on the physics of the atomic universe, which he had written."

"Do you mean that your brother had written about the biology, chemistry, astronomy, and forces of a possible universe, before its actual existence was proved?" I exclaimed astounded. Truly must Horace Blakely have been a genius towering above such men as Roemer or the great D'Albe, of whom I had heard from time to time much praise in matter of atomic science.

"Yes, the task was a simple one for Horace," replied the inventor quietly. "He claimed that all the riddles of creation could be explained through the use of the higher mathematics. As the spectroscope had detected helium in the sun before it was discovered on earth, so had his calculations revealed divine secrets which only the evolving of man through the centuries to come would definitely prove!"

I could only murmur my admiration and awe, and I am not easily awed. "At any rate," I said, "we are to have the opportunity of proving the truth of that textbook as applied to the universe we are now in."

Now as the wonderful *Eureka* swept onward through space, the roseate hue of the gigantic atomic sun began to diminish. And as the glowing hue of the sun faded along with its fast-dwindling size, the in-

terior of the cylinder again darkened to the deep blue color now prevailing throughout space. Innumerable stars again twinkled. Here and there in remote distance were the planets of the conglomerate red sun. To our eyes, accustomed as we were to the majestic motions of our own planets, the electrons behaved in a most unruly manner in their circling and darting.

Mr. Blakely motioned toward the erratic electrons and spoke.

"In this universe it is very evident that the centripetal forces at work must greatly exceed gravitational forces as we know them. Otherwise, those erratic orbits could not be explained. It is necessary then, to suppose that a terrific electrical force of unknown nature exerts a firm control over those gyrating electrons, which would otherwise fly apart due to their mutual repulsion."

"You know, I read in a magazine article that electricity itself was supposed to be electrons of constant mass and charge," I said thoughtfully, trying to remember more of the article which I had hastily run through. "And yet here are electrons in space, upon and among which, as you say, electrical forces are at work. That sounds funny—electrical electrons at work on an electron!"

Mr. Blakely nodded his head in agreement. "True enough, it is impossible, and Horace is again proven correct, for he always maintained that electricity could no more be accounted for by charged electrons than mass could be explained by the atomic theory.

"You see, my boy," he continued while the *Eureka* coursed on through space, and while I wondered if I were turning scientist myself, "here we are about to penetrate into an electron. Obviously, the same problems that confront us on earth are about to confront us now, were we to ponder this question from theoretical points of view." He motioned out to where the electron pursued its irregular and perturbed orbit. "How would you account for a mass upon that sphere? Theorize about the atomic structure of a molecule of matter upon that electron? Sounds odd, as you say! No, there is but one approach to these problems, through mathematics, as Horace well knew. And therein lies the secret of his astounding progress, inasmuch as his work was as perfectly carried out while sitting in his armchair as though he had swept into the starry vaults of the infinite or infinitesimal obtaining his data."

What magnificent possibilities of human achievement his words pictured to my imagination! Our earth, then, held all the possibilities of Creation for us. Through the God-given grey matter in their heads, our humanity could reach out into the unknown and march onward toward some stupendous goal, whose Atlantean import could be only dimly conjectured! Then abruptly, my imagination ceased to multiply its images and I returned to practicalities within the *Eureka*.

"Say, how does it happen that we are not floating in space?" I inquired. "Isn't there some idea that if anyone got away from the influence of the earth, he would rise in air?"

"It's a good question, my boy," replied the inventor, a trace of amusement in his voice, "but rather late in the asking, don't you think? Seriously, however, the difficulty was anticipated and provided for, in my brother's notes. Horace has defined gravitation in terms of the mechanical, and the practical result of his interpretation is the astonishingly effective force that binds us to the floor of the cylinder.

"Briefly, a certain continuous altering of electronic orbits results in the slow release of a force which is very similar to the electrostatic force of an electron. So effective is this synthetic gravity that we have moved about the *Eureka* with just the same freedom of action that Earth granted to us."

The glowing electron toward which the *Eureka* had been traveling had increased in size until its bulk occupied as much of visible space as the gigantic red sun had formerly. And now, as the great shining sphere and the *Eureka* moved through

space at exactly the same velocity, we saw that the radiance of the electron did not consist of reflected light as we had supposed, but was created by a mighty band of flaming white energy that completely encircled the globe! Only the most careful scrutiny enabled us to distinguish the dark and forbidding mass of the now gigantic electron itself, extending far below.

The inventor, clearly outlined in the weird decolored light that now permeated the cylinder, offered an explanation.

"It is to be expected," he said, "that the electrical quantities of this atomic world will be increased many times over the force to which we have been accustomed on earth. For while the Earth is always charged with electricity that manifests itself in phenomena such as the *aurora borealis*, that brilliant nocturnal radiance of the far northern latitudes, yet the atom figures to retain charges a million times greater!"

I had barely time to digest this statement and gasp at its meaning when, in obedience to the guiding hand at the console, the *Eureka* shot straight into the band of flaming energy! Appalling sounds of tremendous kinetic electricity burst upon our ears in deafening hissings and cracklings. I felt my hair stand stiffly erect upon my head. And glancing toward the others, I beheld the same phenomenal sight. Dreadful indeed it was to see the silky hair of Helen bristling like coarse strands of black wire!

Abruptly enough, the deafening sounds and concentrated electrical manifestations ceased. The sensations of headlong motion that I had been experiencing gave way to the sinking feeling of plummet-like descent. Suddenly, the *Eureka* quivered throughout its entire length as it came in contact with some material substance. Then all sensation of motion ceased and a blackness as of night enshrouded the cylinder in obscurity and gloom.

"Well, we are here safely enough," came Mr. Blakely's voice out of the darkness reigning within the *Eureka*.

"Here?" I inquired doubtfully.

"On the surface of the tiny electron, which has now become a mighty planet beneath our feet!" was the calm announcement.

Then the seemingly impossible had really been achieved! We were the first of all humanity to reach another world. Strangest of all, the world was part of an invisible universe, the universe of the infinitesimal!

I thought of Helen and an unwonted fear entered my heart as I wondered what frightful dangers we might encounter supposing that conditions on this planet made some sort of an exploration possible. Would we find strange monsters, similar to those of Earth's prehistoric times? Or again, was it possible that we would discover a world of delightful sensations, peopled with a childlike race among whom we would seem uncouth, brutal monsters? At any rate, we were soon to know!

CHAPTER IX

The Sentient Flames

I stared with avid curiosity out through the windows that lined the steel shells of the *Eureka*. But to my disappointment, the jet-black space beyond was unbroken by the smallest point of light, nor did any sounds come to my ears.

"Poor start for so brilliant an achievement as landing on another world," I remarked lightly. "Guess that we will have to wait until morning, or whatever they have here, so that we can see something." The little laugh from Helen that my attempted humor provoked was sufficient reward for my feeble effort to relieve the tenseness of the situation with all of its uncertainties.

The electric lights flashed into brilliance within the *Eureka* as Mr. Blakely pressed the switch that controlled them. I believe that we all visibly relaxed with the coming of the soothing illumination.

"It is very fortunate that I can operate all of the controls in the dark," said the inventor smilingly. "But I certainly did not expect darkness when we plunged

down and became subject to the influence of this planet."

"Perhaps light rays, as we know them, do not exist here," I suggested.

The inventor pointed to the lights flooding the interior of the cylinder. "The very fact that those lights are in operation is in itself a proof that the same ether which we postulate upon Earth permeates this world also. In fact, I am inclined to believe that the transmitting ether is universal. We will, however, learn more about that later, I suppose; but at present, we must ascertain whether or not we may safely leave the cylinder."

Mr. Blakely arose from the control console and stepped to the extreme front of the *Eureka*. He touched a button and a powerful searchlight projected a broad beam of light out into the inky blackness. But naught save a smooth metallic-appearing surface met the eye wherever the penetrating band of light swept.

Mr. Blakely consulted numerous dials and instruments that were fastened to the cushioned walls of the cylinder. At length he seemed satisfied, and leaving the searchlight in operation, he returned to the console.

"I have determined, through the use of certain instruments, that conditions outside, as regards temperature and atmosphere, are quite suitable for us, which is as I expected," he stated. But a note of warning came into his voice as he continued. "Nevertheless, while we may expect definitely similar forces to those on Earth, it is as definitely certain that the intensities and applications of such forces will materially vary." Pausing in his speech, he touched a knob on the console and the massive door in the side of the *Eureka* jerked open!

I half expected some terrific rush of extreme cold or heat, but it did not materialize, and with mingled emotions, I slowly ventured out through the opening. Helen and her father followed and we three stood upon the hard surface of the electronic planet!

I now know that we had landed the *Eureka* and emerged out upon the new world in one of the all-too-rare intervals of calm which sometimes prevail for a few minutes after a particularly violent electrical storm has raged over the surface. But, at the moment, I can now recall that I remarked of the probability that we had disembarked upon a seemingly safe and deserted sphere! I even uttered words of disappointment about the extreme quietude that prevailed! Could we have only foreseen the future, we would have rushed back into the *Eureka* and hurtled from the surface of this astounding world with the utmost speed obtainable in that wonderful craft!

We stood hesitant for a moment or two and then the true activity of the planet began to be revealed to us. The blackness of night vanished away with unbelievable suddenness and a light, comparable to intense moonlight, shone from the heavens.

Looking up for the cause, I beheld a lowering curtain of thick black clouds withdrawing from the skies. Then there were revealed the beautiful and glowing spheres circling with but slightly less celerity and eccentricity than that displayed when first viewed from the *Eureka!*

The elderly inventor was the first to break the silence, his voice coming without change, although I detected a jarring effect in my ear due, as I later discovered, to the increased speed of sound transmission and slight differences in the transmitting medium.

"I am afraid that we shall be constantly subjected to such rapid changes as the one which just took place," he said. Then he glanced toward the cylinder and uttered a cry of astonishment.

"What is it, father?" asked Helen quickly.

"Those lights in the windows of the *Eureka!*" He pointed an agitated hand toward the motionless cylinder.

I stared at the *Eureka* and stood rooted in surprise. The windows should obviously have been streaming yellow light out into our surroundings, inasmuch as the illumination proceeding out through the

doorway was the expected yellow glow of the incandescent electric bulbs. But the thick glass windows shone with an uncanny purple color! It was a beautiful but certainly not fearful sight to me.

"What does it mean?" I inquired perplexed at Mr. Blakely's manner.

"Fluorescence among certain crystals that were diffused through the special glass when it was made," replied the inventor tensely. "This planet is bathed in a powerful light quite impossible to perceive by our limited senses. A blazing ultra-violet light exists here, for those crystals fluoresce purple when exposed to it. We must again enter the cylinder or we shall suffer terrible burns and even blindness in a short while!"

Upon the conclusion of this last sentence, fraught as it was with such a frightful prediction, we turned toward the *Eureka*, intending to hurriedly regain its welcome and protective interior. But we had taken no more than two steps before we stopped short as an appalling sight met our eyes!

● Effectually barring us from the cylinder, there hovered a number of weird flame-like shapes! Undoubtedly they were incandescent, for they seemed to burn with a steady steel-blue flame. But at the same time, it was apparent that they were living creatures of some sort, for near the upper part of each cerulean flame, two red spots glowed and coalesced balefully, undoubtedly forming the strange creature's eyes! The flame shapes themselves were about seven feet in height, for all the world like a candle flame expanded prodigiously and endowed with two flaming eyes of red!

Helen's cry of surprise and terror broke my amazed silence as she drew closer to me, while I cursed our presence upon the strange planet and the flaming things that were too unhuman to possibly mean anything but harm to us. "What shall we do?" I whispered to the inventor who had been surveying the grotesque shapes keenly. He replied with a doubtful shake of his head.

Now, as though some decision had been arrived at, the huge and gaseous creatures of flame slowly advanced toward us, their red eyes seeming to rest malevolently upon us.

My heart pounded in fear at the nightmarish sight. For a moment I, too, retreated before the slow and measured advance of the flame shapes, unconsciously noting the uncanny manner with which the lowest part of each individual flame would extend forward a short distance and fasten on the metallic substance, the body of the flame edging forward until the entire creature was again in a vertical line. The effect was protoplasmic, something one might associate with the familiar locomotion developed by amœbas!

Casting discretion to the winds, I charged upon the flame-beings as they advanced, unknowing as to what I could accomplish against such insubstantial organisms, but determined to clear a path to the *Eureka*. I struck out at the nearest of the beings and screamed with sudden pain. My arm fell useless to my side!

Maddened by the hurt and trembling with rage, I flung myself bodily into the unhuman thing and was struck unconscious, my last remembrance being of a withering heat and an unbearable gaseous odor!

When I regained my senses, the inventor was bending over me loosening the collar of a blackened tan shirt. The smouldering remains of my black and white sweater were held by Helen. My neat brown knickers were neat no longer, presenting a sorry and scorched appearance, having been partially consumed by the animated flames!

I suppose the vaporous creatures were waiting for me to arise as they had halted their advance and stood motionless, their red eyes staring fixedly down upon me.

I groaned weakly as the remembrance of that awful nauseating smell threatened to completely upset my stomach. The lingering effect was similar to that caused by the inhalation of ether, following which one awakes to hours of nausea and vomit-

ing, with the disagreeable taste of ether forever in the mouth.

"It is useless to struggle, my boy," the inventor was saying. "You but touched one of these hideous creatures and yet you fell unconscious. We are fully in their power and must submit to their will."

After I arose weakly to my feet, the flame-beings continued their remorseless advance toward us. Whereupon, it speedily dawned upon me that they wished to drive us, as one does cattle, to some destination.

"It appears as though we shall not be molested so long as we submit to their wishes," I agreed in a whisper, "and march on ahead of them." Then I indicated the advancing line of flame-beings as I continued. "How in the name of all that is scientific can you account for life assuming such an exterior as the flaming beings that have captured us exhibit?"

We marched ahead of the inexorable flames for a few moments before Mr. Blakely made reply.

"It is not nearly as astonishing as you might think," he said thoughtfully, "if you forget your natural reactions to such a wonderful sight and simply consider the entire thing from a scientific standpoint." Here he wandered absently from what must have been our designated course of progress. Immediately, an alert flame-being drove him back in a slightly oblique direction! When he was closer to me and again evidently upon the correct course, the vigilant blue creature withdrew a greater distance in the rear. Unperturbed, Mr. Blakely again resumed his interrupted discourse. "From a scientific viewpoint," he repeated, "it is a comparatively easy matter to grant the possibilities of sentient life to flames. For instance, in the flame there is a constant consumption of materials by which the flame continues its existence. So, too, do we humans feed upon materials which are changed to energy. The process is a chemical one and its purpose, as in a flame, is to permit our continued existence and stability. Furthermore, both flames and human beings consume oxygen and release products of combustion. Also, both flames and humans die when the supply of materials necessary for existence is cut off!

"Too, flames reproduce in an astonishingly life-like manner, by fissure, a method comparable to micro-organisms. And only the materials available limit their growth and expansion.

"In this world, the flame seems to have become a sentient organism limited in growth, but gaining voluntary locomotion and stability, which more than offsets the quicker growth and death of earthly flames."

"How clearly you put it all!" I exclaimed admiringly. "You disregard all the astonishing aspects of the case and look at the matter in the cold light of scientific logic, and presto—the thing is as clear as day!"

For a few minutes of time, I had forgotten our deplorable and tragic plight in the interest that Mr. Blakely's reasoning had aroused in me. But now the fears and horrors of the situation rushed back to mind and I became well-nigh distracted for the safety of my companions and myself.

A thousand times I cursed my helplessness and asked myself an appalling question. Where were these living flames driving us—and for what unknown purpose?

Twice had electrical storms of prodigious power broken from suddenly lowering skies, which, but a moment before the onset of the storm, had been as free of clouds and signs of impending hazards as the clearest of earthly moonlight nights! The lightning display and the deafening thunder were a hundredfold greater than any that I had ever witnessed or heard on Earth—greater by far than any storm that ever burst in the Rocky Mountains, which are in themselves noted for the terrible elemental eruptions that rage over them.

The firmament of this electronic world fairly blazed with fiery sheets and jagged darting ribbons of electrical energy! And many times from the seething heavens,

great opalescent globes of swirling flame slowly descended to the metallic surface below. These would drift aimlessly for a space, like immense incandescent balloons, and then suddenly burst asunder with deafening explosions!

While we cowered, terrified by the awful violence of electricity upon this planet, the flame-beings had waited unmoved, their baleful red eyes fixed unwaveringly upon us. And when the awful manifestations of elemental forces had ceased suddenly and we arose from our prone positions on the hard surface underfoot, these silent and glowing creatures continued their advance.

A minute later Helen stumbled and fell to the ground.

"Helen — Helen!" I cried anxiously, rushing to her assistance. "What is the matter?"

But she remained motionless and I noticed that a strange red discoloration had spread over her features. Sickening fears surged over my heart as I glanced at her father, who was engaged in chafing her arms to promote circulation and I saw the identical crimson hue spread over his countenance likewise!

I had no more than noted this frightful fact, than the inventor straightened up and passed a trembling hand across his brow.

"We are in darkness, total darkness!" he cried. He arose to an erect position and stood swaying for a moment and then pitched lifelessly forward, falling hard by my feet!

Then a mist clouded my vision and I blinked and squinted in repeated effort to clear my eyes, but to no avail. The thickening mists darkened into a Stygian blackness and I became strangely conscious of my pounding heart and throbbing eardrums. A stifling heat seemed to envelop me and a profuse perspiration broke out over my entire body. I experienced a prolonged and dreamy sensation of falling that ended as I finally struck some hard object violently, and then I knew no more!

CHAPTER X

Incandescent Immortality

I seemed to live through an interminable period of feverish nightmare, during which myriads of the giant flame-beings drove me ever onward, their coalescing eyes burning into me with the intensity of their dreadful stare. Then came a protracted period of pain and agony, suffered half-consciously. Finally all this passed away and was replaced by soothing and refreshing sensations and I awoke.

I sat up weakly and stared about in wonder and amazement at the strange chamber in which I now found myself. Its walls were rounded and formed of some transparent substance that cast off a continuous and phosphorescent white light.

For a moment, I wrinkled my brow in bewilderment, and then I grasped the truth. This large spherical chamber, whose walls were composed of a smooth vitreous substance, was a prison and I was a securely sealed captive!

It was with thankful heart that I heard the voice of the gray-haired and bespectacled inventor and, turning around, saw that my two companions were yet with me. "Thank God that you are now conscious, my boy," the inventor was saying. "How do you feel?"

"About as well as could be expected," I replied doubtfully. Then I turned anxiously to Helen. "And you, Helen—you are all right, too?" Thank heaven that the dreadful discoloration had vanished from her lovely features!

"Father and I have been all right for quite some time," she answered reassuringly, "but we were considerably worried over you."

"But what does it all mean?" I asked uneasily. "The last thing that I remember was seeing you two fall to the surface of this planet unconscious."

A strong undercurrent of intensity was apparent in Mr. Blakely's manner as he cast apprehensive glances out of our glassy prison and spoke in a half-whisper. "I believe that we are in the hands of an entire race of gaseous creatures similar

to those that drove us across the face of this planet, until we fell blinded and senseless from the effects of continued exposure to powerful ultra-violet light."

I gasped in surprise and comprehension. Ultra-violet light—so that was why we had collapsed so suddenly! Then a thought came into my mind. "How on earth, then, are we so completely recovered from the effects of that terrible exposure?" I asked wonderingly.

Mr. Blakely indicated his own perplexity to account for our presence in this sealed sphere, completely recovered and refreshed. He was evidently as puzzled as I. But later, we were to realize more fully the miraculous powers possessed by these nebulous beings!

Three of the gaseous creatures had been hovering in all their seven-foot splendor on the opposite side of the glass-like wall. Now, as with one accord, they advanced directly through our thick sealed prison, the rounded walls melting as they came in contact with their electric-blue glowing bodies.

Withdrawing through the opening thus created in this astonishing manner, the creatures waited motionless.

The heat they had caused while they remained within the cell was unbearable. Again the sickening odor of gaseous combustion came to my nostrils. "I think that they want us to follow them, Mr. Blakely," I managed to say, in spite of nausea and discomfort.

My two companions agreed and we walked out through the melted opening, drawing as far as possible from the glowing beings as we did so. Indeed, I believe that we experienced a feeling of mutual relief, in spite of our fear and uncertainty for the future, as we quitted that once-securely sealed globe.

A thought occurred to me that these creatures knew nothing of the oxygen which we required and that we might easily have suffocated in a short while. This was my thought at the time, but I found out later just how much I had been in error. For these living flames had noted our respiratory needs and had purposely made the cell porous!

Down through an irregular passageway whose walls were formed of the same adamantine substance that prevailed underfoot (the hard metallic surfacing) we proceeded, keeping as far ahead of the unbearable flame-creatures as we could conveniently manage.

Here, the only light visible was furnished by the glowing bodies of the living flames themselves. This uncanny and weird radiance, however, was sufficiently luminous to enable us to proceed without a great deal of difficulty, although we stumbled frequently in our nervous haste to keep the unhuman things at as great a distance as possible.

Our coming was evidently expected, for in the distance I could see more of the fantastic beings awaiting our approach. And as we drew nearer to them, they swung about simultaneously and moved on in front of us, so that we were escorted front and rear. Naturally, no thought of escape entered my mind.

The tunnel passage merged suddenly into an immense cavern whose towering walls were lined with innumerable shelf-like projections. These smooth ledges were filled to overflowing with myriads of the gaseous flames. And the glowing of their many bodies filled the great cavern with an intense, yet ghastly light.

Somehow, I gained the impression that we were far beneath the surface of the electronic planet. Perhaps it was the forced gusts and drafts of swirling nebulous vapors, reminding me of artificial ventilation in our earthly mines, that contributed to my impression, which was subsequently proved to be true.

Now, in the center of the great opening, I perceived a luminous configuration of unexpected size. Fully twice the length or stature of the seven-foot creatures that we were familiar with and scintillating with a beautiful prismatic brilliance was this new living flame-creature!

Directly above this strange monstrosity hung a misty cloud of iridescent colors—a veritable aurora of chromatic tints!

Our unwelcome and nauseating escorts deserted us, moving away in their grotesque amoeba-like motion, and we stood alone in the center of the huge cavern, facing the bizarre being who undoubtedly was a superior and a controlling entity among these living flames.

Suddenly, a glowing and many-hued streamer writhed out of the luminous globular mists that swirled and eddied above the towering living flame, streaking down upon us.

I recoiled in terror, as the strange force embodied in the streamer acted upon us, coiling about our bodies in an undulatory circling.

Now the beautiful streamer divided into three separate strands of changing color and wreathed into glowing halos about our heads. I became conscious of a distinctly agreeable sensation. It was as though my brain had been acidly purged by powerful cerebral forces. It seemed as though all inherited and environmental furrows and ridges were smoothed away, leaving a velutinous and sensitive surface, upon which the most ethereal of impressions could record themselves. I became conscious of a new universe of preceptiveness and I waited with bated breath for the communion with these inhabitants of an intra-atomic world, which the increased sensitivity of my consciousness assured me would follow!

● Then came a lucid and graphic message to my brain. There was no impression of a language, simply a beating consciousness of reverberating thought-impressions.

"All of your present conceptions of evolution, which we determined by our minute examinations of your infantile brains, are far transcended by the ancient evolution which progressed upon this planet Calora, resulting in an all-powerful people, the ruler of whom is now in communication with you.

"We have secured from your puny brains the information that you have come on a scientific mission from a new-fledged world whose historical age is roughly estimated at eight thousand years and whose geological age is seven million years if the extremist estimate is allowed in these very lenient figures.

"One of your party, whose brain shows marked mathematical and inventive ability, will understand when I inform you that the planet Calora, upon which you stand, is of a dateless geological age, the duration of which you cannot possibly begin to comprehend. Yet it came into being at the same instant of creation as your own youthful Earth!

"More understandable to you, however, will be the estimated historical age of my people, who began their existence and evolution from the universal life cell at the same moment as your earthly humanity. It is eighty quadrillion years! Although this is a quite inconceivable figure to you, I wish to impress upon your brains the truth of that statement. For I am to convey to you knowledge that will tax your limited cerebral capacity to the utmost."

Then came a pause during which I glanced hurriedly at my companions, endeavoring to ascertain whether or not the same impressions had been recorded within their brains also.

To my utter astonishment, their replies to my unspoken question came into my brain and were recorded with astounding clarity, within my consciousness!

"We are receiving the same wonderful message that you are!" had come their mingled silent speech.

Again a solemn and staid message surged into mind, as the glowing strands of color encircling our heads waxed into greater brilliance.

"After we had evolved from the universal life cell, which itself was struck into birth by forces unknown, even to us, we passed a hundred thousand years in bodies whose structure was exactly comparable to yours as you now stand before us. In words more easily understood, you are the incarnate bearers of our own organism as it existed eighty quadrillion, less one hundred thousand, years ago."

These gaseous Calorans were once

flesh and blood like ourselves? My mind rebelled at the thought, refusing to fully accept the statement. Too, the unbelievable spans of time to which the ruler referred stunned my imagination!

"Thousands of years rolled on. Our people developed enormously in power. We conquered our flesh and blood enemies and mastered the natural forces that prevail upon Calora, through our scientific progress. Finally we advanced in science to the point where Immortality was possible of achievement. But a price lay in the voluntary sacrifice of our natural heritage of flesh and blood.

"This price was paid, and we were an eternal people, having attained Immortality in the scant two hundred thousand years that had elapsed since our birth from the universal life cell."

Thought impressions emanating from the gray-haired inventor by my side came into my mind. He was addressing the iridescent ruler that towered before us. "This Immortality that you have attained, upon what theory of life was it based before its final realization?"

"Before we achieved Immortality on Calora, our physicists had reduced all life to the configuration and motions of the infinitesimal particles of matter which make up the substance that is endowed with life. But finally there was discovered a '*genetic force*' which exerted a determining action upon the life substances and was found to be entirely independent of our mechanical laws. And with this force, our scientists found it possible to create sentient organisms out of any substance whatever. Repeated experiments proved that in a gaseous medium, the *genetic force* could be sustained and prolonged indefinitely.

"Thus by this wonderful accomplishment was the way paved for the Immortality so eagerly sought by my people. For at the time, our span of life was the seventy years which your brain informs me that you now possess.

"One by one, our mortal bodies of flesh and blood were permitted to be consumed by the incandescent gaseous medium that contained this *genetic force*, whereupon the everlasting gaseous medium was endowed with the intelligence of the mortal creature that it had cremated!"

Again Mr. Blakely directed a silent message to the Immortal Ruler. "A wonderful discovery indeed. Your final realization of Immortality would seem to indicate that every event of life is not predestined and calculable on a mathematical basis as would be the case if life had been shown to be the result of rigid conformation to the mechanical laws that govern moving forces."

There came a momentary silence during which I surveyed the weird scene with a nightmarish feeling of unreality. Only with the utmost difficulty could I force my strained imagination to accept the myriads of incandescent Calorans, illuminating the vast cavern with the bluish glow of their bodies, as living, thinking creatures of Immortal existence! Thousands upon thousands they lined the jutting ledges and rock-like shelves and protuberances that extended around the metallic walls of this immense chamber. Once, according to the message emanating from their ruler, they had known life in human shape and form!

Again thought impressions broke into the waiting silence of my acidly sensitive consciousness. The Immortal Ruler again addressed us.

"There were further sacrifices made when our race ascended to Immortality. These were unknown at the time that we voluntarily submitted to mortal cremation, but soon became apparent to our intelligences, once we began our existence within the gaseous medium. One of these unexpected, and at first, inexplicable, phenomena resulted in a complete loss of mental happiness as we had previously known it."

Here the lustrous glowing exhibited by the gaseous body of the Immortal Ruler of Calora grew more dim and some of the waning tints of color vanished away. His communication came to my brain more slowly, seeming to convey accents of inexpressible sorrows.

"We had consummated the greatest achievement to which a sentient organism might aspire—Immortality! Yet my people have continued their existence down through the millions of years that have since elapsed, in sorrow and despair. The agonies and anguish of the damned have become our portion, since we so rashly defied the Creator and bestowed never-ending life upon ourselves."

How the terrible words of the ruler echoed through my brain! Here was an entire race of marvelously advanced beings condemned through their own mighty powers to an eternity of torture and despair in an alien form of existence!

"When each individual had submitted to the intense suffering caused by the cremation of their flesh and blood bodies while they were yet alive, in the ever-burning flame of *genetic force*, the intolerable suffering had become indelibly stamped upon our Immortal intelligences. The result has been the submerging of our entire mighty race in misery and dolor.

"In the first throes of our despair upon the realization that the fiery ordeal had wrought an eternity of intense suffering, a furious desperation and madness swept over us. During this hysterical and delirious period of insanity, all of our towering cities were destroyed in an all-engulfing conflagration.

"Of little use to us when we began to comprehend wherein we had been at fault was the formulating of a method of our scientists, whereby the race could obtain surcease of moral suffering. The method required organisms of similar structure and intelligence to that which we had possessed before we had adopted the present medium of existence. But such organisms no longer existed on dying Calora, whose surface had been devoid of materials that could give birth to an evolving life for a million years or more!"

Now the flaming colors of the Immortal Ruler became so vivid as to cause actual pain to my vision. It fairly shone with splendor and new tingent delicacies became apparent in the aurora of hues that swirled cloudily overhead.

The huge assembly of glowing Calorans throughout the cavern seemed to burn more brightly as their ruler communicated his will to us:

"Therefore, you who stand before me shall be assimilated into our Immortal Race. You will be fortunate, however, in that you will not have to endure the fearful suffering and terrible agonies that we endured, long ago. For by a power, which I noted while exploring your brains that you know of vaguely under the name of hypnotism, you will have all unnerving sensations of fear banished from your minds. Then one of our scientists will consume your combined intelligences into his own. He will then be enabled to impart to our martyred and crucified race the lost emotion of happiness."

I blanched in horror as the ghastly words echoed through my consciousness. We three pitiful creatures from an outside world were to be sacrificed to these tortured living flames in a scientific experiment!

Now, if ever, our plight was shown to us, outlined with crystal clarity. We must regain the *Eureka* and our own universe and planet. But how were we to accomplish it?

Never were human beings in a more tragic situation than we—an exigency in which we now found ourselves the captives of a powerful and unhuman race of inhabitants that lived beneath the surface of an infinitesimal world, and who were to cremate us alive!

CHAPTER XI

Through the Labyrinths

● Again we were captives in an unpierced cell of transparent vitreous substance. Slightly larger and roomier was this new and equally impervious chamber to which we had been escorted by red-eyed Calorans upon the termination of our presentation before the ruler, but a prison nevertheless!

Mr. Blakely and Helen reclined wearily upon the hard, glossy surface of the cell, while I paced excitedly to and fro as

much as the limited space within permitted. "I don't care what their powers are!" I was exclaiming in determined manner. "We must get to the *Eureka* before these Calorans start the ceremony that the Immortal Ruler told us would soon begin." I dared not betray the fear and worry, which lay concealed beneath my determined air, lest the elderly inventor and the lovely dark-eyed Helen give way further to the despair that had so evidently taken possession of them.

"But how, Walter?" asked Helen listlessly. "What can we do against such a terrible and formidable people? Remember how their ruler told us that no power could destroy them, that they were absolutely Immortal and only lacked the one emotion of happiness and we should enable them to regain that, too?"

Mr. Blakely nodded and adjusted his spectacles nervously. "Perhaps we owe these sentient flames our lives, at that. You remember how the ruler or spokesman, whatever that splendid flame was, told us of the hurried scientific treatment that was necessary, when we had been conveyed here, that we be kept alive. For the surface ultra-violet light had blinded and nearly killed us."

"Yes, I remember that explanation," I retorted indignantly. "But what was their reason?—simply to keep us alive and well, so that at the proper time, they could hypnotize us and burn us up, thereby enabling one of their scientists to restore lost sensations of pleasure and happiness to the race.

"These cruel red-eyed beings have treated us like cattle and we owe them nothing," I continued. "I suppose to them we bring memories of the hideous and unprogressive past when they were mortal. I am certain that, had they not perceived the use to which we could be put, they would have utterly annihilated us when we first put foot outside of the *Eureka* onto their planet!"

Mr. Blakely shook his head resignedly. "Were the impossible to happen and did we succeed in escaping from these Calorans, how would we ever manage to ascend to the surface?"

"It's true," I agreed forlornly. "We have found out that they live a considerable distance beneath the surface of their planet."

"You see, my boy, it is impossible," said the inventor thoughtfully. "We are securely sealed in this chamber; we do not know anything of the ways and passages that lead to the surface; and were we fortunate enough to leave this prison, and get as far as the surface, we should not again survive the ultra-violet light that blazes down unseen upon this electronic world."

For a moment, I gave way to feelings of the greatest despair. Truly, the various obstacles he pointed out seemed insurmountable. But my eyes rested upon the lovely Helen, she whose eyes bespoke her love as yet unsaid. I would not lose her! And from the very depths of my despair, there came a terrible grimness and a courage born of love such as I had never before experienced!

"We must escape from Calora—" I had begun determinedly, when Helen suddenly gave voice to a subdued cry. She turned toward us, her lustrous dark eyes glowing with suppressed excitement.

"Father—Walter! I think that I have found a way to escape from the cell here, at least!" she announced. Then she outlined a plan based on an incident that had happened when the Immortal Ruler decreed our fate.

The inventor and I exchanged surprised glances. We had both noticed the incident, but had failed, somehow, to understand what it might mean to us.

"I am certain that I was the cause," continued Helen eagerly. "And if that is true, we may be able to elude the flame-guards!"

"I believe that you are right, Helen," I agreed and pondered a moment. "Now if we can only deceive them into the belief that something unusual is taking place in this cell, they may employ their bodies to melt their way in. As for the rest—we'll have to take a chance that what

Helen observed in the cavern holds good. At the worst, I fully believe that we are much too valuable to the Calorans for their scientific experiment to permit them to destroy us wantonly."

Then, in accordance with the plan quickly formulated, we proceeded to exhibit the utmost madness of action that our weary bodies could portray. We simulated conflict, whirled in circles, and leaped crazily about the cell, nevertheless keeping a careful watch out of the corners of our eyes to observe the effect we were creating upon our red-eyed captors.

It worked exactly as we had planned. An uncertainty of manner became manifest among the four Calorans that had remained on guard outside our spherical prison. Their red eyes moved restlessly toward one another. Then, simultaneously, they advanced upon the transparent cell!

Placing the gaseous incandescence of their bodies against the substance composing the walls of our prison, they moved through the melted opening thus created, precisely as we had expected.

Instantly, we paused in our mad behavior, upon which the four blue Calorans also became motionless. The heat radiating from their gaseous bodies began to be unbearable. The familiar odor threatened to sicken me.

Then as I raised my hand in the signal previously agreed upon, we shouted aloud with all the volume we could muster. The rounded walls of the cell rang with our cries and the result was all that we had hoped for!

The four Calorans swayed and flickered, their coalescing eyes rolling wildly. And while they wavered, thus affected, we dashed past them and down one of the many diverging passageways that opened out from the small central chamber in which the transparent globe rested.

For a space, we fled hysterically down the dim corridor in a very panic of fear, lest the flame-beings recover too quickly from the effects of our desperate strategy and recapture us. It was possible, too, that they would promptly destroy us now that they were convinced that we had the power to temporarily elude them.

But the sobbing breath of my companions told me that exhaustion would overtake them unless we could obtain some much-needed rest. Indeed, young and active as I myself was, I was very nearly spent.

Finally I espied a small cave that was very nearly invisible because of the blackness of its interior. Instantly, I decided that it would prove a haven of refuge for a brief time. There we could obtain respite from the dangers and hazards that beset us and plan for what was sure to be an exceedingly dangerous struggle to regain the safety of the *Eureka*.

There proved to be just room enough for the three of us to remain concealed from anything traversing the dimly phosphorescent passage that had brought us here.

As soon as I had recovered my breath, I spoke to Helen, although I could not distinguish her features in the blackness that prevailed within our dark recess.

"We are temporarily free, Helen, thanks to your observation in the huge cavern," I said thankfully. "I should certainly not have connected your scream of dismay with the sudden flickering that passed along that fiendish assembly!"

"Nor did I dream that her cry, uttered when the Immortal Ruler pronounced our doom, would prove to be the means of our escape," said the elderly inventor, pausing breathlessly between words. "Yet it must be remembered that flames, as we know them, are sometimes very sensitive to particular sounds. And in this case, these Calorans seem to react violently to the vibrations of the human voice, as Helen noticed. It is very possible, too, that their astonishing reaction to our human voices proceeds from some deeply ingrained heritage remaining from the time when they possessed a flesh and blood structure, as they have said."

● Then our whispered conversation turned to the furtherance of our escape. We hastily decided that there was nothing

o do but follow the dim galleryway, wherever it led. For unfamiliar with all of our surroundings as we were, one route was as good as another. And did we possess a reasonable amount of good fortune, we might reach the surface. Once there, we should have to run the unseen gauntlet of ultra-violet light that saturated the atmosphere. Perhaps, almost certainly, we should be stricken down, but anything was to be preferred to the cremation which the Calorans had decreed that we undergo.

Now fully recovered, we again ventured out into the dim way whose metallic-like enclosure was cold to the touch.

Absently, I tested the chill of the wall with a wet finger. "Strange," I murmured thoughtfully, for hitherto, the metallic surfaces of Calora had seemed slightly warm to the touch. But then, with twinges of fear, I noticed the decided downward slant of the corridor. This and the chill walls combined to prove to me that we had fled unknowingly deep into the bowels of the planet!

"Great Scott!" I cried despairingly. "We are farther away from the upper surface than ever, for we have been descending downward ever since we escaped from the glassy prison cell!"

But there was nothing that we could do save follow the subterranean passage downward. Known dangers lay behind us; far better to face the unknown and possibly fewer perils in front of us. After all, there was a possibility that the passage would rise to the surface at some distant point.

Onward we traveled through the murky corridor, which at times decreased in height to but the scantiest margins that would permit difficult passage of our prone bodies. Then again, the walls would recede and the ceiling ascend, until we were moving forward and downward through great chambers of a size very nearly comparable to the immense cavern wherein we had faced the Immortal Ruler.

Once a great and glowing pit of incalculable depth stretched from wall to wall completely barring our progress. Had it not been for an almost unnoticed shelf that projected a few feet down in the interior of the abysmal pit, we should have then been thwarted in our flight from the Calorans.

Only one of us at a time could essay this narrow shelf or projection that was to make it possible for us to attain the opposite side of the bottomless void. And here it was that my heart nearly ceased its beats as I, after having successfully negotiated the perilous undertaking, was forced to watch both my companions in turn swing over the depthless glowing chasm and carefully reach my side. Then in thankful and heartfelt relief, I lifted them to the comparative safety of the gallery floor.

We traveled on for a time without further mishap, save for certain irregularities in the hitherto smooth surface underfoot, against which we tripped and stumbled now and then by virtue of our weariness and the dim light prevailing.

Suddenly, the faint phosphorescence in the passage became markedly brighter, changing from dull white to a brilliant red. We glanced at one another in surprise and a presentiment of forthcoming danger stirred uneasily within me. The increased illumination became a veritable flood of crimson glare as I turned to survey the corridor behind me. I caught my breath in sudden astonishment and terror at an unexpected and fearful sight.

In our rear and effectually barring the metallic artery through which we had fled, there now stretched a sheet of blood-red electrical energy!

In spite of the dismay which the presence of this singular hissing force aroused in me, I could not but admire its blazing incarnadine splendor. Queer forked corruscations shot out continuously from the flaming screen. These would dart close to our bodies and then be withdrawn into the curtain of energy for all the world as though it were prodding us on!

My fears, aroused by observing the frightful purpose of action and intelligence exhibited by this weird force, were

redoubled when there came to my nostrils the unmistakable odor of Calorans.

Then we fled precipitately before the now advancing manifestation of electrical intelligence. It followed closely and inexorably in our rear and I realized, with sinking heart, that we three were again captives of superior beings. And I cursed myself for my rashness in ever daring to dream that these all-powerful creatures of gaseous intelligence, possessing all the collected knowledge that eternities of time could offer them, would ever permit our escape.

This time our fate would be sealed, in that we were to be destroyed for the benefit of these Calorans who had obtained Immortality at the expense of all that makes life endurable—the possession of happiness.

CHAPTER XII

The Temple of Flame

Great was our despair as we retreated before the relentless march of the crimson energy. Recalling our previous method of escape from the disembodied intelligences, we had again shouted in unison until exhaustion had compelled us to desist. Yet we had not succeeded in influencing the behavior of our irresistible captor in the slightest. Evidently, the defect of our former escorts had been discovered and overcome in the substitution of this superior force.

We emerged from the galleryway into a small underground chamber from which, at various points, arteries similar to the one we have just traversed branched out darkly. When we hesitated in the circular room, uncertain which road to take, the strange crimson activity determined our route for us in no uncertain manner. This discarnate intelligence divided itself instantly into a number of falcated fissures. Each of these divisions expanded across an aperture of a passage. Finally but one opening was left unobstructed and the blazing sign was unmistakable—we were left but one route to traverse!

Upon our forced selection of the only available way and upon our entrance into it, the numerous fissures moved silently from the various openings that they had barred and as silently rejoined the parent body!

Now, as we rounded a sharp curve in the gallery, we were brought into the most colossal cavern that we had yet viewed in the interior of this electronic planet. More astonishing, too, was my realization that this titanic vaulted chamber, extending into remoteness in whatever direction the eye wandered, must have been the scene of tremendous subterranean activity of undoubted volcanic nature sometime during the past geological ages of Calora, for the substances throughout this immense and arched cavern differed as greatly in composition from the limited materials heretofore seen on this planet as night differs from day.

Here the elderly inventor burst into surprised speech, confirming my belief in the ancient and volcanic origin of this truly magnificent, vaulted opening.

"Good heavens!" he exclaimed. "Look at that boundless stretch of stony-surfaced rock and see those great volcanic blocks and those great beds of lava, long since grown cold!"

"I could easily imagine that I was in the crater and at the base of an extinct volcano on earth," I declared, sharing his astonishment and forgetting for the moment the very unearthly intelligence in our rear who effectually had forced us into this towering cavern.

"Walter, we are indeed at the base of an expired and exploded volcano!" announced Mr. Blakely, pointing upward toward the lofty vaulted roof.

Following the indicated direction of his hand, I stared up and saw that the soaring ceiling of the great chamber narrowed in far overhead, culminating in a tiny orifice just barely visible. And beyond this diminutive opening, I could faintly distinguish stellar lights, twinkling in the active electronic heavens!

We glanced toward one another in evident misery. Far above us up there on the surface of this weird world rested the

Eureka, the sole strand of hope to which we so desperately clung. Could we but enter its welcome interior, this strange planet with all of its pitfalls and unhuman terrors would vanish away and we could again mingle with our own kind.

How welcome would be the wrinkled countenance and twinkling blue eyes of good Editor Mawson, my superior on the *Chronicle*. What a wondrous story I should relate to him when I walked into that busy beehive of a newsroom with my amazing report in hand and the lovely dark-eyed Helen, who was to induce the confirmed bachelor and misogynist, Walter Tracy, to make the unexpectedly welcome trip to the altar, walking by my side and waiting to meet my chief.

A simultaneous cry of terror wrung from my companions caused me to abruptly return from my momentary fit of abstraction and face an appalling situation that was rapidly forming itself within the vaulted cavern.

I had noticed that the walls near the base of this great hollow were porous with countless holes, each of which averaged about four feet in diameter. Now from out of these vents, for such they must have been, poured thousands of the living creatures of electric-blue flame—the gaseous and incandescent Calorans!

And materializing apparently from nowhere, our eyes again beheld the Immortal Ruler of Calora floating gracefully through the air within the immense excavation.

The jagged rocks and volcanic blocks, polished smooth in the past ages by the dying subterranean fires, glittered and shone with bluish splendor as they reflected the cerulean glow created by the presence of myriads of Calorans.

The familiar aurora of rainbow colors swirled cloud-like overhead, and suddenly a writhing streamer shot down from the many-hued and nebulous cloud again enveloping us. Once more we experienced the not-altogether disagreeable sensation of an Almightly hand erasing all previous impressions from the serried and ridged surfaces of our brains!

There came these beating words.

"Mortal creatures of an immature world, did you think to escape the all-powerful grasp of a people who have existed for millions of your earthly years? Know then, that your very terror-stricken flight was directed to this Ancient Temple that opens out, far overhead, to our stellar skies. And it is here, in our most sacred sanctuary, that the assimilation of your bodies for the immediate good of my people will take place, for the traditions of our race decree that ceremonial rites of great import must be consummated in this, the Ancient Temple of Flame!

● The presence of thousands upon thousands of the blue Calorans began to increase the temperature of the ceremonial temple. The steadily mounting warmth brought feverish flushes to our features. The cursed incandescence of these imponderable beings might well suffocate us before the rites were finished, I thought grimly.

But now there came beating words from the bodiless and iridescent Ruler that caused us to exchange glances of renewed hope and sanguine expectation.

"We of Calora," came the message, "have decided that the grotesque device by which you descended upon our planet from another world be brought to our most sacred sanctuary. Here it will then embellish our Temple into eternities of future time in memory of the important part it played in the restoration of the once-possessed emotion of happiness, which was lost to us when we obtained Immortality."

Gone was our despair! No longer was our plight hopelessly beyond remedy. For did they bring the *Eureka* to this chamber, we would but await an opportune moment before leaping into the wonderful machine and whisking out of this accursed world by the twisting of a black knob!

Such were my thoughts at the time, beset only by the vague fear that the *Eureka* would be placed here after our as-

similation into the intelligences of this intangible people.

How, then, can I possibly begin to describe the uplifting buoyancy that surged through my heart and the now elated features of my companions as, at this most propitious moment, that beloved and doubly welcome cylinder, the *Eureka,* became visible far overhead.

Down through the orifice in the roof of the immense arched cavern it descended, surrounded by a decolored, vaporous cloud that seemingly sustained its bulk and was its method of conveyance here.

Lower and lower this supporting cloud that miraculously bore our cylinder descended, finally depositing the conical invention near a great mass of detached volcanic stone. Then, as the strange sustaining cloud vanished away, the *Eureka,* released from its influence and support, performed a number of revolutions due to the unevenness of the stony surfaces, finally coming to rest in a thick carpeting of what appeared to be yellow sulphur.

I had observed the cylinder somersault forward with emotions of fear and horror. God grant that it come to rest with the door in the side in the proper position for quick and easy entrance! And to my intense joy, that is exactly what happened. For as it finally ceased its revolving and tumbling in the center of the yellow sulphur bed, we saw the doubly riveted outline that denoted the door of the cylinder facing toward us!

Resolutely, I put all thoughts of escape as completely out of my mind as I could, lest our concealed intentions of flight be discovered by the scintillating being that confronted us.

The color of the unsubstantial Calorans seemed to increase in depth and beauty as the electric-blue of their bodies deepened to an amethyst purple. Their baleful and malignant red eyes coalesced less redly, and even the Immortal Ruler seemed to take on an added delicacy of tingent color.

The chromatic nimbus of color developed far overhead, expanding in size until it fully enveloped all of the vast spaciousness of the mighty cavern.

Then over my consciousness there swept waves of dolor and sadness created by the telepathic ceremonial music of this incredibly ancient people. And my soul swayed, as a flame in the wind, while I listened in awe to the terrible chords that told of an entire race plunged into an eternity of grief and misery through their own temerity in daring to attain Immortality.

I, too, seemed to belong to that same mighty race. I descended ever deeper into the depths of that awful sorrow and anguish, from which there could never be surcease.

After an interminably prolonged period of time, during which I experienced abysmal depths of despair that I had never dreamed could exist, the profound thought-images evoked by the wonderful music of Calora changed, and with the celestial sound of a thousand plucked harps, there were born the most enchanting strains of harmony within my brain.

Vanished were the morbid and depressing thought-images of the present. In their stead, the delicate harmonies conveyed the story of the people of the Ancient Days who had lived in serene contentment, satisfied with their lot in life and the span of mortal existence that had been allotted to them.

The delicate and ethereal music became strident as the hypnotic harmonies told of the restlessness and discontent that had developed over the species. Sonorous, trumpet-like blasts told of the cruel philosophies that had swept over Calora, forcing the people to discard their heritages of simple beliefs and find the world in which they lived a hateful illusion.

The fearful music developed into a harsh, jarring cacophony, whose furious passages finally climaxed in a veritable pandemonium of discord.

Slow Lydian measures throbbed into consciousness, telling of the approach of a glittering and resplendent eternity of existence. But the mounting grandeur of the stately and deep-toned music ceased as the tinsel splendor of Immortality enveloped the race, ghastily exposing the

never-ending and delusory path that terminates at its point of origin.

A few silent bars of inharmonious sound impressions, offensive and repugnant, told of the awakening of a deceived people and then the mighty waves of dolor and sadness again engulfed me.

CHAPTER XIII

A Portentous Discovery

● I awoke from the telepathic and mesmeric hallucination of music with the impression of an interminable passage of time and an intolerable sense of weakness and fatigue.

Save that the chromatic nimbus of cloudy and vaporous color had vanished, the immense cavern remained as before. The disembodied Calorans stood motionless in their countless numbers throughout the towering temple. In the center of the volcanic chamber hovered the radiant and iridescent ruler.

Suddenly as the last vestiges of the hypnotic influences cleared from my brain, I became aware that the red eyes of the blue Calorans were no longer visible! At first this meant nothing to me, but when I noticed a thin colorless film of flame drawn over where the red eyes normally were, I understood.

These Immortal beings still remained under the influence of the all-embracing trance or spell created by their ruler, whose eyes, as I quickly and hopefully noted, likewise exhibited the glowing film that served to close them!

"These Calorans are asleep!" I hurriedly whispered to my now fully awakened companions. "Through differences in constitution, we must have awakened sooner than they calculated upon. Quick, to the *Eureka,* before they awake and complete the ceremony by burning us alive!"

Hastily clasping hands, we moved toward the ponderous cylinder which but awaited the touch of a finger to bear us forevermore beyond the reach and power of these unhuman creatures.

"If we can but succeed in regaining the interior of the *Eureka,*" whispered the inventor tremulously, "I can instantly direct our course straight up the volcanic crater to the opening overhead!"

I had been keeping a keen watch upon the cataleptic Calorans and particularly upon the Immortal Ruler. Now I began to discern a slight flickering and a tremulous movement of the pallid film that obscured its eyes.

"Hurry," I commanded in a low, tense voice. "These beings are beginning to awake from the ceremonial trance!" I grasped Helen's hand tightly as we now threw caution to the winds and fairly ran toward the cylinder.

If we failed to escape now, before these accursed Calorans could prevent it, we were lost, for we would probably never have another opportunity, inasmuch as the ceremony once over, our assimilation into this tortured race of another world would take place.

Too late! There were both of the red eyes of the Immortal Ruler again visible, coalescing wickedly as it glared redly down upon our pitiful effort to escape!

I was heartsick at the undoubted frustration of our flight, but mechanically continued to rush toward the massive door in the side of the now-battered and yellowly discolored Eureka, and to urge my companions to greater celerity, although I was but waiting the while for some further manifestation of the wonderful powers of these Calorans that would serve to check or annihilate us.

To my surprise and astonishment, we reached the cylinder unmolested. But it was no time to question the how or why of our good fortune, and I hastily flung open the heavy door and assisted the breathless inventor and the flushed and frightened Helen into the interior.

While this had all taken a matter of moments, it had seemed an eternity as I had waited for our feverish flight to come to a forced termination. While I had really entered the *Eureka* with unprecedented momentum, precipitating myself upon its steel floor as I fell headlong in my haste, yet I had never seemed to move so slowly

in all my life. Extreme emotions sometimes alter time-values queerly.

As I fell prostrate, I twisted violently around so that my eyes were able to regard the ruler in a last amazing stare as the weighty steel door of the cylinder slammed shut in response to the frantic touch of the inventor's finger on the control console.

My mind whirled with mingled emotions of exultation and wonder—exultation at our success in regaining the interior of the *Eureka,* which would seem to assure our escape, but incredulous wonder at the passiveness with which the Immortal Ruler had watched our desperate flight.

Suddenly I started in terror! For as the cylinder streaked into life and motion, speeding at a terrific pace up the narrowing walls of the cavern, I clearly received another telepathic communication from the Ruler of Calora, who was now far below us in the sacred temple.

"You are permitted to leave this planet, but only in the custody of faithful Calorans who will possess the power to compel your remigration here, after our purpose in allowing you to temporarily return to your own world is fulfilled," came the message.

And now, as we flashed through the once-tiny orifice, which had grown to its true crater-like proportions as we rocketed toward it, out into the usual tumultuous electrical storm raging upon the surface of Calora, my eyes dilated in horror. For there, in the interior of the *Eureka,* where the steel shell widens to its highest point, were two of the creatures of pointed flame! Their red eyes burned balefully as they steadily regarded us with that terrible fixed stare which is so hatefully characteristic of them!

The planet had vanished from view and we had passed through the awful violence of that fiery belt of electrical energy that lies just beyond the upper atmosphere of the electron, shuddering at the prodigious activity and the appalling sounds that prevail, before the increasing heat within the *Eureka* and that disgusting odor of gaseous Calorans had directed the attention of my companions to our accursed and offensive intruders.

I shall never forget the look of fear and dismay that spread over their features as they saw that, once again, we had not completely escaped the power of these creatures.

Now I fully understand the amazing inaction of the Immortal Ruler in permitting our departure. More, too, I understand that we were yet as fully his captives as though we were again in the Ancient Temple of Flame!

CHAPTER XIV

Sad Return

● While the Eureka is in meteoric flight through the starry heavens of the infinitesimal, I am writing this seemingly fantastic narrative in as detailed a manner as my newspaper training renders possible, before the continued mesmeric influence of these accursed creatures of incandescence destroys all of my independence of thought.

The two nauseating Calorans, inhabitants of a planet which is now separated from them by vast immensities of space, remain *en rapport* with the Immortal Ruler who controls their every action and, through their proximity to us, sometimes impresses its words into our brains as though we again stood before it in the sacred and traditional ceremonial Temple.

Weary and worn from lack of sleep, the inventor has more than once directed the constantly accelerating cylinder upon the wrong course due to mistakes in his multifold calculations. Were it not for the many delays thus caused, I could not have hoped to set down this account of our grievous adventures in their entirety.

I fear, too, that Mr. Blakely's mind has been weakened by the fearful events which have taken place, for more than once he has whispered significant words to the effect that the destruction of these Immortal creatures might be accomplished, once we were again in the labora-

tory. He also conveyed the startling information that if he did succeed in dispersing the gaseous substance that sustains their intelligence, a far-reaching fire and explosion might result! He even declared that the white cottage and all it contained might be completely destroyed!

But it matters little that at last the *Eureka* is set on the correct course, and that we have left the successive universes of the quinine molecules and again penetrate the gaseous atmosphere of the laboratory preparatory to instant expansion, for our doom is sealed and certain!

As amid stifling heat and offensive smell, I write these words, glancing ever and again to where the two fantastic creatures of flame hover in their inexorable and unwavering manner, my mind is a chaos of horror as I realize the impending fate that awaits our own unsuspecting world. For these unhuman subjects of a tortured race are to accomplish the first step in the projected assimilation and subjection of the mortal peoples of Earth!

This will augment the already multipotent powers and mighty intelligence of the deathless Calorans, who, as a final message by thought transmission from the ruler stated, intend to desert their unstable and barren planet Calora for one better suited for their expansion, as they believe the Earth to be.

We are powerless to prevent this, although it is true that the inventor and the *Eureka* are necessary to their purpose, for our own puny mental strength and will-power are pathetically ineffective and strangely unendowed with resistance, when in conflict with theirs.

I cannot foretell the methods by which they will proceed in the conquering of humanity. I shall be fortunate indeed if my narrative is ever read by human eyes and this serious and urgent warning heeded.

Now, as the delicious languor and lethargy of the senses, created through the mesmeric powers of the Immortal Ruler, steals imperceptibly into full control of my brain, I commence to think and act as do the flame creatures themselves.

Lest any who may peruse these words in the future feel too great a sympathy or too overwhelming a compassion because of our fate, I hasten to add that the Immortal Ruler has decided to grant us separate bodies of the flaming gaseous medium, instead of the assimilation into the intelligence of a Caloran scientist as had been previously intended.

We three captive mortals will become Immortal creatures of flame, but of entirely separate individuality!

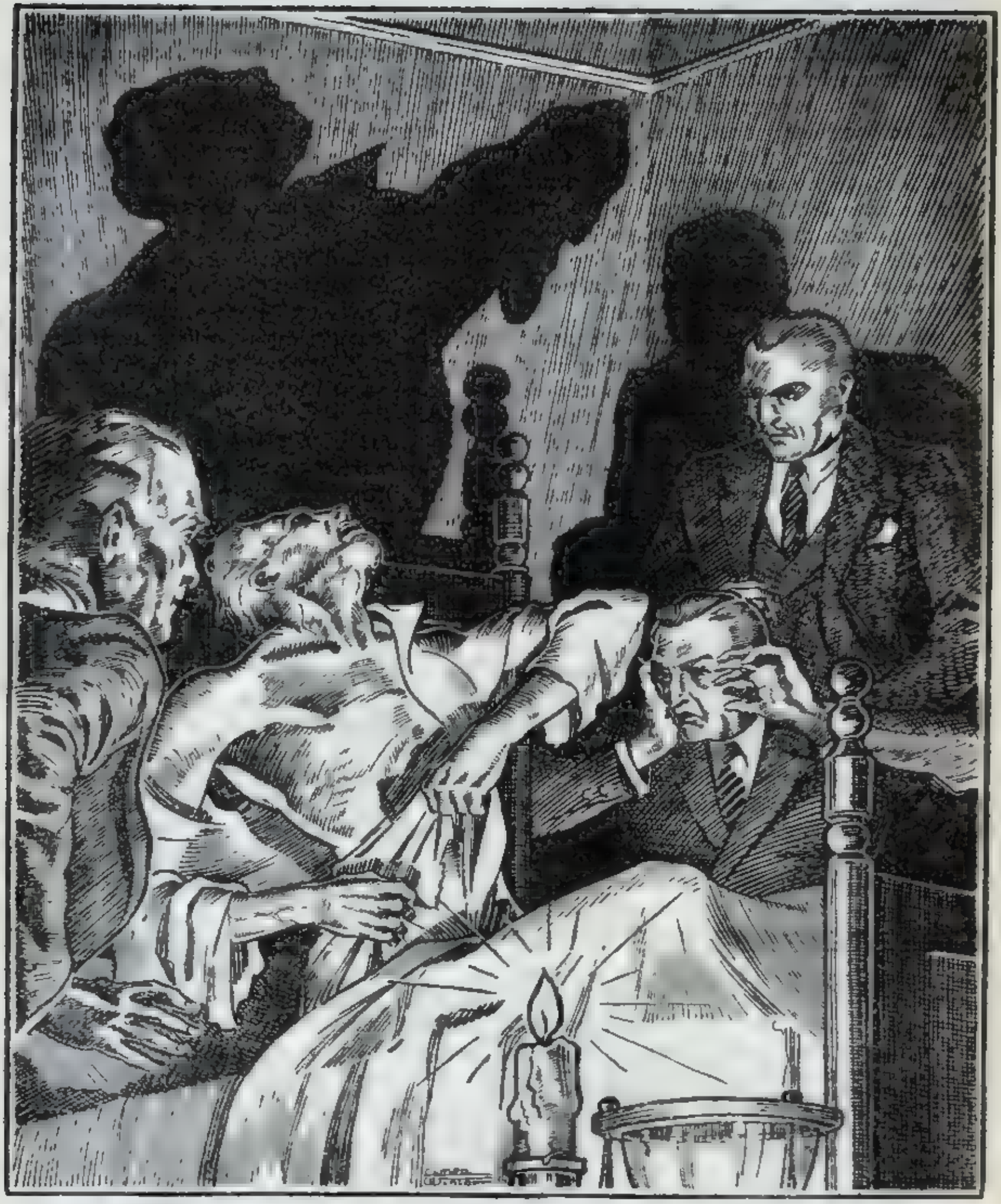
But whatever the medium that sustains our souls throughout an eternity of time may be, or whether we exist in joy or sorrow, matters little to Helen and me, for we are to remain together and continue our love.

THE END

WHAT IS YOUR SCIENCE KNOWLEDGE?

Test Yourself by This Questionnaire

1. Where in the United States is the greatest variety of plant life? (See Page 15)
2. Who invented the telescope? (See Page 23)
3. Give an illustration to show how small molecules are. (See Page 23)
4. What did Lucretius declare that molecules were? (See Page 23)
5. What is electrolysis? (See Page 23)
6. What is the "planetary theory" of the atomic universe? (See Page 23)
7. What was Meyering's theory of the origin of cosmic rays? (See Page 24)
8. With what speed do nerve impulses travel to the brain? (See Page 28)
9. What is the Heaviside Layer supposed to be? (See Page 91)
10. What color were the Mediterranean races of 4,000 years ago unable to see? (See Page 93)
11. Where is Amundsen Land? (See Page 94)
12. What will heavy weights placed on one side of a ship do to it? (See Page 96)
13. What happens when a cable connecting a tow and a barge is suddenly cut while both are in motion? (See Page 97)



(Illustration by Winter)

Suddenly, the man sat up in bed, shrieking and pulling at his abdomen.

THE DOORBELL

By DAVID H. KELLER, M.D.

There can be no doubt that Dr. Keller has a style distinctly different from any other author—so many of his admirers have come to a vociferous conclusion to that effect.

In this typical *Kelleryarn*, we have the essence of mystery—a mystery that is not solved until the very last paragraph in true O. Henry fashion. If you can guess the conclusion before the author gives it to you, you have the detective element in your blood.

The science in this story is so logical that no one will doubt the possibility of the action, although it has never been done before. And after reading the story, you will hope that no one ever dares to try it.

The two men stood on the suspension bridge that hung over the trackage of the largest steel works in America. They were watching a crane and an electro-magnet load scrap iron from the ground to small freight cars. The crane would swing the magnet over the hill of scraps; suddenly, several tons of iron would move up to meet the magnet, and then the crane would carry the magnet and the mass of attracted metal to a position above a car. Then the load of iron would fall off the magnet into the car.

"Rather clever!" exclaimed one of the men. "I see it every day but never fail to think it clever. Man throws a switch and the magnet starts pulling, throws another switch and it stops pulling. Does the work of twenty men and does it better. I own this place and am fairly busy, but almost every day I walk out on this bridge and watch the thing work. Been a big help to me."

"I wish it would help me," sighed the other man. "There ought to be a story in it, but I cannot find it. That is the bad part of being an author; you could write lots of things if you just had lots of things to write about."

"There *is* a story in it," replied the steel man softly. "I owe you something and I think I ought to pay you with the story. How about spending the week-end with me up at my shack in Canada?"

The author blushed.

"Sorry. I can't. No money to pay the carfare; not the right kind of clothes for the kind of shack you live in and the kind of guests you will have. Thanks for the invitation, but no is the answer."

"Come on," urged the rich man. "There will be only one other guest but he stays by himself all of the time. Here is the program. You know my office in New York. Be at the front door at three, Friday afternoon. One of my men will be waiting for you in a Rolls-Royce.

"Tell him who you are and he will bring you to my place. He is a fast driver and makes the trip in six hours. He will leave you at the front door. Push the electric button on the side of the door and my man will admit you. I will wait supper for you and come back to New York with you early Monday morning. You will have an interesting week-end—and I promise you a real story, though whether you will be able to sell it or not, I don't know. What does a story have to have to sell?"

"Originality—the sound of truth—human interest."

"Then you will never sell it because no one will believe it, but come anyway. Sorry about your wife, but this is the kind of a week-end party I cannot invite her to."

"That will be a hard thing to explain to her. Of course, she has heard of you, but

she will think it queer, her not being invited to a week-end visit."

"Don't explain. Just tell her that it is a business trip—that I want you to write a book about me. Tell her that I paid you five hundred in advance. Show her the money. Here it is in hundred dollar bills."

"I can't do that," protested the writer. "I am hard up but I can't take the money for nothing."

"Sure you can. I owe you more than that. Be at the office, Friday at three. I'll see you at supper."

Jacob Hubler did as he was told. It was not every day that he had five hundred handed to him; it was not every day that he had a chance to week-end with one of the rich men of America; it was not every day that a story was promised him. He had done Henry Cecil a real service. Even Mrs. Hubler admitted that, though she raised her eyebrows when her husband explained that it was to be a stag party for two. At any rate, the three p.m. appointment was kept. There followed a long, tiresome drive through New York and over into Canada. Hubler lost all sense of direction. The chauffeur was a better driver than conversationalist and most of the time simply grunted. Hubler tired of the grunted answers and stopped asking questions. The last fifteen minutes, they drove through a forest of heavy pine. At last they came to the house.

"There is the door," announced the chauffeur. "I go back to town." And there was nothing for Hubler to do but to walk up the pathway and ring the doorbell. There was a light over the front door—otherwise, the house was dark. The night was as black as pitch. It was impossible to tell anything about the house, the size, or the architecture. All that the author could see was the front door. All that he could hear was the constantly diminishing sound of the automobile racing back to some town. All that he could hope for was that Cecil, the steel man, had remembered the invitation.

On the top step, he found the electric push button which served as a doorbell. There was nothing peculiar about it—just a circular piece of polished brass with a small white button in the middle. He looked at it and thought that in some way it was incongruous with the doorway and the house and the dark silent night. A brass door-knocker, a pull bell that would tinkle merrily, some kind of announcer that could be heard by the visitor would have been more friendly, more sympathetic to his lonely mood. He hesitated, and his hesitation was born of the haunting fear that if he pushed the button, he would not hear the bell within; he would not know whether it even did ring within the house or if it rang whether there was anyone there to hear it. He wished that he had a horn to blow and then laughed bitterly realizing that he had never blown one, and even if he knew how and did blow it lustily, how could anyone hear him if there was no one in the house? He realized the neurasthenic quality of his fear, the almost psychopathic tendency of his imagination. Perhaps Cecil had done it all on purpose, to furnish him the thread of a story—a six-hour ride ending on the doorsteps of an empty house, and the nearest dwelling God knows where. There was a story there, and it might be more of a story before he returned to his home in New York. He looked moodily at the doorbell. It was just a plain, ordinary, everyday electric push-button.

The Strange Doorbell

● The only way he could go on with the adventure was to take a finger and press on it.

And that was the thing that he suddenly dreaded to do.

Yet he had to!

So, cursing himself for an imaginative fool, he pressed the button; he rang the doorbell. Not just for a second did he ring it, but for what seemed at least a minute; or was it five?

Suddenly, the silence was broken by the sobbing shriek of a thing in pain, the terrible howling of a tortured animal. Above the silence of the night, the menacing noise rose carrying with it the terror

of deadly agony, only to die away in throaty sobbings as he pulled his finger from the white button.

He found that he was shivering, sweating with the fear of the unknown burning through his soul. He wanted to escape, to run down the dark road, to plunge into the friendly, silent darkness, to do anything if only he could flee from a repetition of those sounds.

And then the door was flung open, lights blazing in all the windows of the house. A stately butler bade him enter. Cecil came to meet him—Cecil the steel man, in evening clothes and a friendly smile and a warm greeting.

"You are five minutes late," he scolded laughingly. "You were due at nine. Have you been waiting all those minutes trying to find the doorbell? Hurry to your room and wash and join me as soon as you can. Supper is ready and I am sure that you are hungry."

Everything seemed different. Hubler wondered if he had been the victim of auditory hallucinosis. Here was light, warmth, good fellowship, and the cheer of a fireplace. Supper was served there instead of in a formal dining-room—a supper of roast duck in front of the fireplace. Henry Cecil made a charming host; the butler was everything a butler should be; there was a quiet charm in the atmosphere of the room. Gradually, Hubler relaxed and, by the time the meal was over, was silently laughing at his former fears. The table was removed, the butler withdrew, and then the author asked the steel millionaire the question that had been bothering him for several days.

"You promised me a story, Mr. Cecil."

"So I did. In fact, as I remember it, that was your real reason for making the trip."

"Exactly."

"Not being an author, I hardly know how to even start a story."

"You start with a title. Every story has to have a name."

"I understand that. You can call the story what you wish. If I were going to write it, I would call it 'The Doorbell.' but no doubt that would sound uninteresting to you." He spoke softly with a smile.

Hubler looked at him. Doorbell? Suddenly a memory that he had almost thrust back into the subconscious returned. He answered rather sharply.

"That will do for the name of the story. Go on."

"I will have to begin years ago," said the steel man. "I came originally from the western part of South Carolina. Perhaps we were related to the Cecils on the eastern shore of Maryland, or the Cecils of Louisiana. I have read their family histories, but I never was able to satisfy myself that my father was of either family. In fact, I never saw my father, for he died when I was a little fellow. My mother was Amy Worth from Atlanta, Georgia. She was related to the Fannings and the Stills. They were proud people but poor. After Father died, she tried to support the three of us. You see, I had a brother who was much older than I but not a man.

"We lived in a house in the country that at one time had been the home of a rich man. By the side of the front door there was a doorbell. It was the old-fashioned kind, a pull bell. A wire ran from the door to the kitchen, and when the knob was pulled, the bell *tingled-tangled* in the kitchen. Mother kept it in repair. She said that it was a symbol of former greatness and something for us boys to try to grow up to. She wanted us to become real men. Hardly anyone used the bell because we had few visitors and mostly they just came around the back way, like neighbors would.

The Four Brothers

● "I guess Father had enemies. He must have had. There was one family of four brothers who claimed they owned our farm, but Mother held that she had a clear title to it. I was away one day hunting, like a little fellow will be, and when I came back toward dusk, I found the front door open. Brother was dead and

Mother was almost dead, but she told me what had happened. From the way she was shot, I don't see how she lived as long as she did, but she had Fanning blood in her and the Fannings die hard. Anyway, I sat down on the floor and put her head on my legs and wiped the blood away from her mouth. Then she told me what had happened. Perhaps this is not interesting you, Mr. Hubler?"

"On the contrary, I find it more than interesting. Go on."

"All right. Anytime you tire, tell me to stop.

"Mother said that she and Brother were in the kitchen when the doorbell rang. It was such an unusual thing that they felt sure something was going to happen, but they went to the front door and opened it, because they were in their own house and they were not afraid. Mother explained that to me—that they were not afraid. Even when she was dying, she took the time to tell me that she was not afraid because she had the Fanning blood in her. They opened the door and there stood the four brothers. They had come to the front door and rung the doorbell instead of going around to the back door the way the friendly neighbors would have done. They never said a word, just started to shoot, and when they left, they told Mother they were going to come back after dusk and finish with me. I wanted to stay, but Mother made me promise I would go. She said that there was work for me to do but that I had to do it when I grew to be a man and that it was not anything for a little lad to undertake. She died in a while, after she had told me what there was to tell. So I took my rifle and left that part of the country. The neighbors found them and buried them. Years after, I went back and put a stone over their graves. That is the end of the story."

"Not much of an ending," Hubler insisted. "It is not the kind of an ending that would interest the average editor. The story could not stop right there. There must be something more."

"Perhaps," replied Henry Cecil, "but it is all true so far. And there is the rifle I brought with me from the Carolina mountains. When I bought this land and built this house, I brought it up here and hung it above the fireplace. End the story yourself."

"I cannot do it. A thousand endings have been written to the story you have told me. You should have taken the rifle and hunted down the four brothers. You should have shot them one at a time. But things like that have all been written before—nothing new to it. Instead, you come north, learn the steel business, become a rich man, have a palace in Canada, and hang the gun above the fireplace. That is interesting, but it is not a story. Why didn't you use the gun?"

Cecil smiled.

"There would have been no originality in it. A thousand mountain boys would have done that, but as far as I know, I am the only mountain boy who became interested in steel and electricity. I had to be in every way different. You see, I was just a lad when Mother died with her head on my lap and when I was not looking at her face, I kept looking at the doorbell. She had always said that the doorbell was a symbol; that rich people had doorbells, that the Worths and Fannings and Stills in Georgia always had doorbells and if Brother and I kept that in mind, we would grow up to have lives with doorbells, and servants in the kitchen and everything that went with doorbells. But instead of bringing joy and happiness and prosperity into her life, it had been the signal of death to Brother and her.

"So I have never been able to forget the doorbell."

"You mean?"

"Something like that. I am trying to explain why the rifle was never used. Now a doorbell would be something different. You can see that for yourself."

"There certainly is a difference—so much so, that there is no resemblance," agreed the puzzled author.

"At least, Mother's ambitions have been satisfied. I have become rich, well known, and somewhat important to the financial

life of the nation. In fact, some of the Maryland Cecils have been trying to show that they are related to the Carolina branch. I have a home in the country and a doorbell at the front door. I have servants who can be trusted. My butler is a man of good breeding and high education. Being an ex-convict, in fact an escaped convict, this place is a city of refuge for him, and he appreciates the fact. His wife is the cook. My chauffeur also has certain things to be thankful to me for and in addition knows how to drive and keep his mouth shut."

"He certainly is no conversationalist."

"No. He does not talk. Then there is the doctor. I just had to have a doctor. I have guests, and when they become sick, it is so much better to have a physician in the house rather than have to send to Montreal. This man is a good fellow; drinks, and cannot return to the States. But he is a wonderful nurse and takes good care of my guests. I hunted for a long time to find a doctor who would answer my purpose. Different doctors, you realize, have different ideas concerning the administration of drugs. Some give powders, others liquids or hypodermics, and now and then you find one who thinks that the only way to administer medicine is in the form of capsules. This man I have is what you might call a 'capsule doctor.' He is clever. He has some capsules that dissolve in the stomach and some that do not dissolve till they enter certain parts of the intestines. That's my family up here. I meet a man and become interested in him and invite him up for the week-end. If he becomes sick, he is well cared for—very well cared for. Well, it is late and you are tired from the drive. Suppose we retire?"

"That suits me," said Hubler. "And is that all there is to the story?"

"All for tonight, and it's enough for you to work on as you drift into the land of dreams. Will you go with me? Often before I go to bed, I go out to the front door. It makes me think of Mother and the brother who died so soon in his early manhood. Come."

● It was a command rather than an invitation. Opening the door, Henry Cecil turned a switch and the house darkened—all except the light over the front door. The two men stood on the landing, out in the night air. The darkness was like velvet silence.

"At times we hear a hoot-howl, and now and then a wildcat. You ever hear a wildcat, Hubler? At times they sound like a child crying."

Hubler shook his head.

"I never heard a wildcat," he answered. "Do you hear them often?"

"Now and then," whispered Cecil, "Now and then." And turning, he pressed strong and hard with his right index finger against the doorbell.

Suddenly the stillness was rent with a sobbing, shuddering shriek, a cry that rose in intensity, that carried with it the terror of a soul torn to bits and cast into the flames of hell. Cecil removed his finger, and slowly the yelling died to sobbing and the sobbing to moaning and the moaning to silence.

"That is what a wildcat sounds like," explained Cecil. "Come. Let us go to bed. Tomorrow is another day."

He turned the lights on and personally took his guest to his room and there he left him. Hubler went to sleep slowly, telling himself that there was a wonderful story there but that the pieces did not fit. It did not make sense. There was too much left out. Once he woke and heard an owl hoot, but that was all.

The next morning, the butler served breakfast to him in his room. Hubler tried to question him, but the man was everything a loyal perfect butler should be. All he would say was that the master was busy and would see him at two for dinner and that he would find very interesting books in the library, or the butler would be glad to bring him some, or if the gentleman cared to play pool, the butler would be pleased to play with him. So Hubler called for a typewriter and spent the morning writing the story in a dozen different ways and tearing it up as fast as he wrote, because he realized

that all of the ways were poor ways and far from the truth.

Disgusted with himself, he rang for the butler and spent the rest of the time playing pool. He found the man a very excellent opponent.

At two, Cecil came into the billiard room. The butler silently left. Commonplace remarks were exchanged, and then the steel man took the lead to dinner. A third man awaited them and was introduced as Doctor Murdock. The meal was served with some formality and a lack of conversation. Finally, Cecil asked the doctor, "How is your patient?"

"Rested fairly well today but had two severe attacks last night."

"Your medicine does not relieve him?"

"No. He is going like the other three."

"Have you made a diagnosis?"

"No. Nothing seems typical of any condition I am familiar with. I really would like a consultation. My professional pride—"

The rich man interrupted him.

"Tut, tut! You have nothing to worry about. You are doing as well as any other doctor could do. Let me make the situation clear to you, Mr. Hubler. I have had four guests lately, one at a time. They come here at my invitation to enjoy my hospitality and fatten their purses on my bounty. Each became mysteriously sick, a stupor which may have been caused by too much drinking. I had them moved to our little hospital room and Doctor Murdock took charge of them. The following symptoms were the same, occasional pains of a terrifying nature at irregular intervals accompanied by a progressive anemia. Three of them died, and the doctor states that the last one is going rapidly. He is a good physician and I have the greatest confidence in him. There is no occasion for him to worry. Everything is perfectly regular and each man has had a legal death certificate and a simple but satisfactory burial. Of course, it is to be regretted. It may make other guests, like yourself, feel ill at ease, but I do not think that there will be any more cases. Are you still giving the capsules, doctor?"

"Yes. It is a favorite prescription of mine and one that should do good in cholera."

"I had your prescription filled by the best druggist in New York City."

"I know. You said that before. Now an autopsy might help with a diagnosis?"

"No, Doctor Murdock. A thousand times no. It is bad enough to have my guests suffer without cutting them to pieces after they are dead. Diagnose all you want on them while they are alive, but after death, I beg your to respect their cold, pallid forms. But come, let us finish the meal. I want to show Mr. Hubler my place."

For several hours, the two men rode slowly on horseback through the woods. Hubler expressed his continual astonishment at the large number of birds and animals and their apparent tameness.

"It is nothing to wonder at," explained his host. "I do not hunt myself and I let no one else hunt on my property. As a result, even the deer have become tame. It seems cruel to kill just for the sake of killing. Of course, they kill each other. The birds eat insects and the weasels eat the birds and now and then one of the big wildcats catches a rabbit or a very young fawn, but that is just the natural course of events. I used to hunt when I was a boy, but after Mother died in my arms, I have never been able to pull a trigger."

Through the dying day, they rode, and at last, almost in the darkness, came back to the house. An Irishman was waiting for them on a third horse. It seemed that he was to take the horses back to the stable, some miles from the house. Once inside the house, Cecil grew rather proud and expansive. He took delight in showing Hubler through the different rooms, the library, the picture gallery, and a small but complete laboratory for electrical experimentation. At last, he came to a little room. It was empty except for a large mass of wire and iron in the center of the room, reaching from the floor to the ceiling.

The Threads Connect

● "That," said Cecil, "is something that I am especially proud of. It is an electromagnet, probably as large and powerful a magnet as there is in the world. If it could touch iron, it would probably be able to lift at least four tons at a load. It can attract iron particles at a distance of twenty feet. In fact, I had to have this part of the house built without iron nails; otherwise, it would have pulled the floor apart. It is very simple in construction and most of the time is inert, dead. But if a button is pressed at a distant part of the house and the electric current turned on, it becomes instantly alive and functions perfectly. It is very similar to the electromagnet I have at the mills, but this one is even more powerful. I thought that you would like to see it. It might help you with the story, the story you came up here to write. Have you started it yet?"

"Yes—a dozen times this morning, but I tell you frankly that I cannot write it. It does not make sense; none of it. I feel that there is a story there but it does not click."

"Perhaps it will later on. Suppose we go down to see our patient. The hospital room is directly below. We will take off our shoes and put on carpet slippers. Nails in the shoes, you know, and all that sort of thing. When you are near a magnet like this, you have to be careful. Come along."

Down the hall they came to the butler. Cecil called him.

"What time have you?"

"Eight-thirty-five, sir."

"I have the same. At exactly nine, will you go out and ring the doorbell? Remember, exactly at nine."

"I will, sir."

"A very faithful man," commented Cecil. "Always obeys orders."

"Before we go to the hospital, I should tell you about the furnishings. Since it is directly under the electromagnet, we can have no iron or steel there. The sickbed is of wood throughout but very comfortable. Time is told by a series of hour-glasses. The instruments and hypodermics are of hardened gold. The doctor wears slippers at my request. He thinks that I am queer, but as I shelter him, he puts up with what he considers my eccentricities. Should the electromagnet start working while we are there, for example at nine, when the doorbell is pushed, you need have no fear for your personal safety. The last thing in the world I desire is to see you harmed in any way. Come on."

They entered the room. Sharp shadows were thrown by a burning candle in a glass holder. Doctor Murdock met them with a whisper.

"He has had a quiet day, Mr. Cecil. The sleep has been one of exhaustion but there has been no recurrence of the colic."

"Have you used any of the sedative?"

"Yes. He has had his capsules every hour."

"Good. That is all that can be done for him. Doctor Murdock is a great believer in capsules, Mr. Hubler. He is not a pharmacist, so I have the capsules filled for him in New York. What time have you, doctor?"

"According to the hour-glasses, it should soon be nine."

"We will wait till then. We left our watches upstairs. Will you tell us when it is nearly nine?"

They sat down and waited. The doctor went over, looked at the hour-glasses steadily pouring their golden sands.

"Only a few seconds now. The hour-glass is nearly empty," he soon said.

The sleeping patient started to move restlessly. Hubler watched him. The author was trying to think, to coördinate his thinking so that it would make sense. Suddenly, the man sat up in bed shrieking and pulling at his abdomen. His cry was a mixture of curses and hopeless despair. It so completely filled Hubler's soul that he instinctively covered his ears with his hands to try to shut out the horror of it. For he recognized it; it was what he had heard the night he pressed the doorbell, and once heard, was not to

be soon forgotten. Doctor Murdock bent over the man trying to calm him. Cecil looked on with detached interest. Suddenly, the noise ceased as the man dropped backward.

"He's dead!" cried Doctor Murdock.

"No wonder," sighed Cecil. "No one can stand pain like that forever. He is better dead. You know how to proceed, doctor. Come with me, Mr. Hubler. It may be that a glass of brandy will help you. This was not a pleasant sight."

They were back in the living room in front of the fireplace. Hubler had taken his three fingers of liquor, shivered and felt better.

"And now for the story," sighed the steel man. "I realize that you must get this story settled in your mind or you will not sleep tonight, and tomorrow you will leave early for the big city. I will go with you and we will have an early start, so you had better have your rest. You have seen the electromagnet. I will tell you that the four men who have died in our little hospital room were the four brothers who murdered my mother and brother. And as there was a doorbell in our home in Carolina, it seemed best to have a doorbell here. Of course, I had to have a doorbell. Every house, especially a house of wealth, has a doorbell, and you remember that my mother thought it was a very important symbol. Of course, it is important for you to learn that the doorbell was connected with the electromagnet. When it was pressed, the magnet started to work. Now the first brother who came was drunk; he just would not stop drinking, so we placed him in the hospital and I had the second one come on, and he pressed the doorbell a number of times. You see, I was giving him a lot of money and he wanted to please me, and then he became sick and took his brother's place. Then the third brother came, and did the same thing. Finally the last brother, who was the man you saw die tonight, came. Of course, when he became sick, there was no one to press the button but the butler and myself and so I asked you to come up so you could have a hand in it. And now, since the last of the four brothers has died from this strange disease, I will not use the electromagnet any more but will connect the push button with a sweetly sounding bell which will welcome my guests with the true sound of hospitality. Now you can write the story about the doorbell."

● "I cannot do it!" protested Hubler.

"You know I cannot do it. There is still something left out. What had the magnet to do with it? Doctor Murdock took care of all these men and he did not die. He evidently did not even have a bit of pain. You are leaving something out. What is it? I have to know. It is not fair to tell me so much and still tell me so little."

"Perhaps you are right," whispered the steel man. "But even after I tell you, you won't be able to sell the story, because no one will believe you. It was the capsules that did the work."

"But you told me that Doctor Murdock wrote the prescriptions and that they were prepared by the best drug house in New York!"

"That is true. But I forgot to tell you something. After I got the capsules, I opened them and put in each one a small fishhook. Murdock gave a good many capsules to each of his patients. Now write the story."

THE END

ODE TO ARRHENIUS By Charles D. Hornig

Man is in truth but Cosmic Dust,
Which by a sudden whirling gust
Of forces from unbounded space,
Spread o'er this planet's tiny face.

COSMIC CALAMITY

By
W. VARICK NEVINS, III

● Slowly, with a rustling of old newspapers, he rose to his feet. Why must park benches be so hard? Didn't anyone realize that he, Chick Connors, had to sleep on one every night since times had been so bad? It was quite cool for June, too cool in fact, and newspapers are not the best covers for any weather.

"Oh, well," he thought, "maybe something will happen today to improve things. Maybe a job of some kind will offer itself."

A tall figure in blue towered over him. "Move on, kid," was the good-natured though insistent order.

"O. K.," said Chick as he ambled away, "but where to?" This latter part was spoken more to himself than to anyone in particular. Thinking things over, Chick finally decided that one direction was as good as another, so he put the wind to his back and followed the line of least resistance.

Traffic was already beginning to reach its early morning height in the great metropolis, and the city was waking with all the clangor and bustle that would not subside until far into the next morning. Chick liked the city. With its dirt and grime, it does not seem friendly to a stranger, but Chick was on familiar terms with it. All his life he had lived in New York and it was a part of him. He wanted nothing better than the bare necessities of life.

"Well," he said to himself thoughtfully, "it is time for breakfast and something must be done about it. Let's put the old skull to work."

Immersed in thought, Chick stepped down into the gutter and this was almost his undoing. In spite of his twenty-five years of city training, he had forgotten to watch his step. There was a bump, a scream from a passer-by and Chick forgot about the city, his breakfast, and everything else as he lost consciousness.

* * *

"Feel better?" This question seemed to come from nowhere in particular at first, but Chick finally located it. A pair of shrewd, twinkling eyes were looking down at him. They were friendly eyes and Chick knew he would like their owner. He tried to move in order to get a better view, but settled back with a groan.

The eyes moved from side to side while a kindly voice said, "Not so fast, young fellow. You'll be all right shortly, but don't be in too much of a rush."

"What happened?" murmured Chick.

"I guess I had more than driving on my mind, and by the time I saw you, it was too late. However, it was only a glancing blow, so I put you in my car and brought you home. This is my room. How do you feel?"

"When the room stops spinning, I'll try to get up," said the patient apologetically. "I also was thinking too hard, so it was as much my fault as yours. I don't want to cause you any trouble."

"These days the only place one can think in safety is in a locked room," said the owner of the twinkling eyes.

"I think that I can sit up now," ventured Chick, suiting the action to the words. He looked carefully at his companion. He was short, rather heavy, and was attired in an ordinary business suit. There was something familiar about him.

"Haven't I seen you somewhere before?" asked Chick.

"You have probably seen my picture in the paper. I am Charles Farnell."

"The scientist?" queried Chick. "Now I remember. Your picture was on my cover last night. Before I went to bed, I read the headlines and there was something about a new discovery you have made recently. Let's see, it was concerning cosmic rays, wasn't it?"

"You have quite a memory. Why should you be interested in an article like that?" asked the scientist.

"Oh, science has always been my hobby, although I had to quit college in my junior year. I just learned enough to want to know more."

"I suspected you were a little better educated than your appearance would admit," said Mr. Farnell thoughtfully. "These days one may expect anything."

"The reporter in the paper didn't seem to know just what it was all about," continued Chick. "He spoke of cosmic rays and sending messages to Mars or some other planet, but the article didn't make sense. I just thought it was some of the same hooey they print every so often."

"Oh, I guarantee it isn't hooey," chuckled the scientist. "I believe in it. In fact, I was on my way here to start my experiment when we met so unexpectedly."

"Tell me about it," said Chick eagerly, "that is, unless you are afraid of someone stealing the idea."

"I wouldn't have given it to the papers if I were afraid of that," was the answer. "I'll give you a rough outline of my plans. They are not entirely new, but I happen to be the first one with the equipment to try it out. First, however, you are going to have something to eat; then we'll go up to my laboratory."

"Well, I have no objections to eating," said Chick, "but I warn you that my stomach feels like Mammoth Cave."

It wasn't long before Chick had that satisfied feeling that comes from a full stomach. The two started up the stairs to the roof. There had already developed a certain bond of friendship between them. Charles Farnell was not the stereotyped scientist of fiction, and Chick was so optimistic and cheerful at all times that no one could dislike him.

● They soon reached the laboratory which was neatly outfitted with everything a scientist could possibly want. One large piece of apparatus stood in the center of the room. It looked like a combined telescope and huge reflector. The telescope-shaped section seemed to protrude from the center of the reflector which was at least fifteen feet in diameter.

"That," said Chick's new-found friend, "is my invention. I have discovered a reflector of cosmic rays. As you know, up to now, they would penetrate all known substances to very great depths. This alloy which is made of very common materials which I must keep secret for the time being is a perfect reflector of these rays from space. It must first be energized with high-voltage electricity, however. The rays are captured by the reflector and concentrated into a very minute beam which is directed outward into space by the long tube made of the same material. This is mechanized to follow any portion of the heavens. I intend to direct this beam toward Mars with the hope of affecting some of their instruments sufficiently for the Martians to realize that the ray is artificial. I shall vary the impulses and try to establish communication between the planets. I know it is a long chance I am taking. Mars may or may not be inhabited, and even if it is, the inhabitants may not receive my signals. Anyhow, I am optimistic enough to try. I have great hopes that two-way communication will eventually be established by means of my discovery."

"This is certainly very unusual," gasped Chick, "and I have a feeling that something will come of it. Does that reflect anything but cosmic rays and what would happen if this beam were focused on the earth?"

"Those are good questions," nodded Farnell. "Yes, rays such as light and heat and all the others are also reflected but they are not far-reaching enough to travel to Mars without being deflected from the cosmic ray beam. If this were turned on the earth, it would be extremely dangerous and there is no way to tell exactly

what would happen. Concentrated cosmic rays would surely kill any person in their path. I cannot line the room with my alloy, as that would direct the beam back to us. Maybe, in the future, I shall overcome this difficulty, but now I am centering my attention upon communication with Mars. As it is, I shall have to be careful not to let the rays hit a passing airplane."

"The principle really is simple," said Chick, "but without your alloy, it would be impossible. When are you going to start in?"

The scientist looked Chick over carefully. "Right away," was the reply. "Do you want to stay here with me and watch? I have already tested it and know it will work. Now I wish to actually begin attempting communication. It will probably take months or years to attract attention, but you may be here at the start, if you wish. What do you say?"

"Nothing could be more interesting," answered Chick, his eyes shining with delight. "This is worth all the bumps and headaches I had to go through to meet you. However, there is one more question I would like to ask."

"Go ahead."

"Won't the beam harm the Martians, supposing there are such things?"

"No, it will be too weakened by the time it goes through two atmospheres to do more than bother delicate recording machines or some type of radio receiver. I am trusting that our friends, the Martians, have advanced that far at least."

The scientist walked over to the huge machine and patted it lovingly. "Do your best, old girl," he whispered.

He pushed a button and the roof slid partly to one side showing a star-studded sky. Chick suddenly realized that he must have been unconscious longer than it seemed. As the mechanism started, the long cylindrical barrel moved slowly over to point toward the reddish glow that Chick knew to be Mars.

Without turning around, Farnell spoke, "Of course, you realize that I have carefully computed just where to aim the beam. Our eyesight is too deceiving to be trusted."

By this time, thrills were chasing up and down Chick's spine as he thought over what he was seeing. Perhaps he was witnessing the beginning of a new era for the earth. What would the people of Mars be like? Would they be friendly or hostile? Would they resemble the freakish creatures so often portrayed in science-fiction magazines?

His reverie was interrupted by, "Now I shall turn on the power that energizes the reflector. In two minutes, our concentrated ray will start its journey to Mars."

A low hum pervaded the laboratory. There was something sinister and supernatural in its tone. Chick didn't like it. A trembling shook the room and jarred the glassware on the shelves. He felt a strange tingling all over his body. The meters near the switchboard were pulsating rapidly. Suddenly the scientist cried out and reached for the switch, but before he had time to do any more than lift his hand, everything turned a glaring white, then flickered and faded into darkness.

* * *

There was a mad scramble in the motion-picture booth as the operator shut off the projector. "Darn it all," he said, as he rethreaded the broken film. "The manager ought to complain about the prints we have been getting lately. This is the fifth time this reel has broken this week. I'd much rather run a musical show, anyway. These science-fiction films are too far-fetched."

THE END

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NOW ON ALL NEWSSTANDS

(Illustration by Paul)

We had emerged from the *Astra's* shadow, and that blinding orb was the sun!

ADRIFT IN THE VOID

By JOHN PIERCE, B.S.

● All lovers of the interplanetary story will find this an enjoyable little tale. There is a considerable amount of love interest in this, also, though it is not overdone.

This story portrays a tragedy in space, which should not be an infrequent occurrence in the early days of space-travel.

You will find here an exciting intrigue between beings of two planets packed with thrills from the first paragraph to the last.

● "All passengers go immediately to the port-side space-boats!" the speakers blared forth. "Passengers shall not attempt to recover personal belongings from cabins. All passengers go immediately to the port-side space-boats. Passengers shall not—" The speakers monotonously blared this simple message through the confines of the space-ship *Astra*, above a steady whistling that denoted escaping air. The passengers milled about excitedly, hardly yet recovered from the tremendous crash of the meteor which had unbearably heated almost the entire starboard side of the planet plane, fused the control room and strong room, and peremptorily stopped the great cruiser on its maiden voyage from the Earth to Mars. In a few seconds, the repetitions of the communication system speakers began to affect the stunned multitude who were traveling on the space leviathan, and a general rush to the port-side space-boats or lifeboats began. Mechanically, I started to rush with the throng, but at my first thought of the girl, I halted.

She (her name was Myria Amarin, I had discovered from the passenger list) had just entered the corridor which led to the main starboard observation port when the crash had come. I looked about in the crowd, but did not see her anywhere. Could she have been injured in the crash? It was very likely! Surely the crew would find her, would care for her—but on a sudden impulse, despite the hissing warning of the escaping atmosphere and the half-hypnotic urgent din of the speakers, I started to shoulder my way through the passengers who were sensibly making for the safety of the space-boats. What that impulse would cost me, I could not then tell, foolhardy though I knew it to be. Yet how I shudder to think that I might not have heeded it!

I had never met Myria Amarin; she did not know who I was. Probably she had never noticed me. Yet my mind was full of her as I made for the corridor to the starboard observation port. Strange it was that I, who had so abandoned all thought of social life in my zealous following of an engineering career that I had gained at an early age the reputation of a misogynist, if not a misanthrope, should find myself fleeing from safety at the thought that a girl who did not even know I existed might need my assistance. Her face appeared to me in my mind's eye as I had first seen her only a few days before, entering the space-ship. I had entered at the same time, embarking on my first space-voyage—my first space-voyage, although I had done the better part of the mathematical work on the design of this very ship in which I was to travel! For a moment I had seen her face, with its exotic beauty, before she entered the isolite* port. It had affected me strangely and preoccupied me from that moment. No doubt the romance of space-travel itself, the heavens resplendent with a

*Isolite: a transparent glass-like substance of such strength as to be practically unbreakable.

myriad of stars, the glowing, bestreamered orb of the ever-present sun, and the cool bluish disk of receding Terra had enhanced the effect, had served to throw me into a romantically susceptible mood. However that may be, I was haunted by the girl's beauty and completely unable to rid myself of the thought of her. Retiring, shy under my scientific directness, and utterly unused to associating with people, I had not attempted to secure an introduction to her. Yet now I was rushing into danger on the chance that I might aid her!

I made slow progress against the pack of the crowd but finally drew near the starboard side of the vessel, the heat increasingly uncomfortable and the mob thinning. I neared the corridor. Hotter and hotter it became. I entered it, passing the last fleeing passenger. An officer of the ship passed me as I entered and shouted to me to go to the boats before it was too late. I told him that I could take care of myself, and, recognizing me in my privileged character as a designer of the ship (for I was connected with the ship's company in a semi-official capacity), he allowed me to pass. He should not have done so. Possibly he was confused by the crash. But I went on.

As I proceeded, the heat became almost unbearable. Hangings smoked where they were in contact with the metal walls which had so quickly carried the heat from the fused portions of the space-cruiser. The only thing that made the corridor bearable was a steady draught of air blowing down it from the uninjured portion of the ship which I had just left—air rushing to escape, through some break, into space. Ahead was a jumble of débris. I saw no human being. I could not go much farther under conditions like these. Perhaps it was a foolish impulse that had driven me. I stumbled on for a few more steps and gazed into the mass of wreckage. Suddenly I tripped over a hanging that had been torn from the wall. I tried to kick it aside. Something soft and pliant stopped my foot. Someone was under the hanging! I tugged to disengage it while the sweltering heat almost overcame me.

As I fumbled at the hanging, I managed to throw a part of it aside, revealing a face, the face of the girl, Myria Amarin! There was an ugly cut over one eye, and she seemed to be entirely unconscious. Evidently, at the moment of the crash, she had clutched the hanging and torn it so that it fell over her. Perhaps, in her unconscious condition, it had saved her, protecting her from the heat. Sweating and gasping, I tugged to free her from it. Everything seemed dim around me. At last I succeeded and started to drag her slim body up the corridor, for I could not carry it. On and on I went. Dimmer and dimmer grew my surroundings. I felt a whirling sensation, a dizzy giddiness, then overwhelming blackness.

● I must have succeeded in leaving the corridor and going fifty or sixty feet farther toward the space-boats, when I collapsed, and my next recollection is of finding myself on the floor with Myria at my side, and of hearing the communication system speaker blare out, "The last boat is leaving. Number three port. The last boat is leaving—" On and on. Frantically I stirred myself into activity. The girl was still unconscious. I tried to lift her, to carry her, but to no avail. I seemed to be very weak. Then, crawling slowly, I began to drag her toward the only remaining boat. Suddenly the speaker snapped off in the middle of "leaving." It was too late. The boat had gone!

Despairing, I must have sunk for another moment into oblivion. My next memory is that the girl was stirring slightly, and that I was in some measure recovered and a little stronger. Searching the corridor in which we were, I found a water dispenser, and, after a long drink, I took a cup of the cold liquid to where the girl lay. Her eyes were open and she was gazing confusedly around her. She had gained a half-sitting posture against the wall. I put the cup to her lips and she drank a little. Then, remembering, I reached into my pocket and extracted a

box of kolyndrol tablets, a miraculously stimulating substance and much used in small doses as a remedy for space-sickness. I held out three to the girl, who seemed to be somewhat recovered but still confused.

"Take them," I said, other words forsaking me. I held out the cup of water and she did as I bade her. Then I swallowed three myself.

"What," she said, "what has happened? The crash, then here—"

"A space wreck," I replied. "Meteor. It demolished the control room and strong room. It almost killed you, too," I added.

"But the boats!" she exclaimed. "We must hurry!"

"The boats have gone," I said. A look of surprise and despair came upon her face.

"Then we're left here—alone?" she half exclaimed, half asked. It was then that I first noticed that the air was getting thinner.

"Can you walk?" I asked her. She started to rise, slowly and with difficulty. I helped her up.

"We must hurry," I told her. "Lean on me as much as you can." And we made our way with less haste than I could have wished to the one place in the ship where I thought we might temporarily be safe.

Finally we reached the hermetically sealed refrigerator compartment, an immense box-like room well in the rear of the ship, where perishable cargo as well as the ship's food supplies were stored. It proved to be intact. The machinery had stopped and water was dripping from the frosted pipes, but, as nearly as I could see, the room was still air-tight. Aside from there being no air-lock, no more ideal sort of refuge could have been desired. It was a bit cold; the girl shivered. I took off the ornamental cape that custom had forced even me to wear in public and placed it around her shoulders.

"Wait here," I said, and started to rush off. Then, remembering, I turned back and shouted, "Don't close the door whatever you do!" I knew that if the door were to be closed, the falling air pressure outside would cause a force against it which would prevent the lock from opening and would bar me out. Saying no further word, I rushed out toward the machine shop.

Running down the corridor, I was suddenly catapulted into the air. I flew to the ceiling, rebounded, and was flung in a daze to the floor. The artificial gravity had ceased! Everything in the ship now had the weightlessness of an object in free space. Clumsily, I propelled myself, swimmingly, along the corridor to the machine shop. I found the door and opened it just in time to receive a floating wrench on the jaw; fortunately it was not a hard blow. What a chaos met my eyes! Tools, motors, rope, wire, were in a jumbled mass in the air, floating around and rebounding from the walls. Well, I reflected, anyway, I shan't be bothered by the weight of the stuff.

With more haste than thought, I gathered together a collection of tools and apparatus, binding it up into bundles and tying these to a long rope. I made sure of securing a small radiolite* welding outfit. For the rest, I tried to get a representative collection. The thinning air reminding me, I opened the cabinet and extracted two of the space-suits used for outside repairs. These I tied on the rope with the rest. There was not time enough to don one. Grasping the end of the rope to which this train of objects was attached, I crawled and floated to the door, out of it, and into the corridor, up which I made my slow way, the heavy tools floating behind me like a string of kites. I had done well, I reflected, as I neared the refrigerator room. Perhaps there was hope for us yet, if a salvage crew should be sent to the abandoned ship. I stopped to untangle one of the bundles which had caught on a projecting ladder in this more rudely constructed part of the *Astra*. Then I resumed my slow progress, dragging my train of tools. I had nearly reached the door when an appreciable

*Radiolite: A powerful chemical fuel universally used in varying forms as a source of energy. In some forms it is violently explosive if mishandled.

rush of air hindered my floating progress, weightless as I was. Some part of the hull had given way and the air was escaping rapidly!

Frantically, I made such haste as my condition would allow me, clawing all the time for handholds on the metal walls. I grew alarmed. Only a few feet more! The velocity of the air increased. It was getting thin; I was panting. I was tempted to rest, but forged on harder than ever. Should I lose the fight, so near to my goal? Foot by foot I went, each foot more difficultly achieved than the one before. How could I get there; how? Suddenly something fluttered in my face. I seized it. I felt it being pulled! It was dragging me along toward the door. I glanced at it. It was a torn strip of my ornamental cape. The girl had made a rope and was pulling me to safety!

CHAPTER II

Space-Boat Number Five

● Once inside the refrigerator room and the door closed, it was an easy, though fumbling process to renew the lost atmosphere. This section of the ship had its own atmosphere machine, specially adapted for making a mixture of gasses best suited to the preservation of perishable cargo but at the same time breathable and not deleterious to human beings. While the new air poured from the outlet, I made no attempt to think or act, but merely rested, sitting against the wall. Surely, I felt, I deserved a rest after all I had undergone in the last—how long had it been, I wondered? I managed to extract my watch and look at the face. It had been half an hour since the crash. Yet to me it had seemed ages. I looked at the girl. She gave me a little smile of determination and encouragement. In half an hour, Myria Amarin and I had become comrades in misfortune.

Once the atmosphere in the refrigerator room began to resume its normal density, our panting ceased. Neither the girl nor I had suffered more than temporary discomfort from the lowered air pressure, and as soon as we could exert ourselves and talk comfortably, we lost no time in attending to our injuries and in becoming acquainted. The injury Myria had suffered in the crash proved less serious than I had expected, and scarcely merited the bandage I applied. We both had burns from the heat in the corridor, and though these proved rather uncomfortable, they were by no means disabling. Thus we were not long occupied, conversing all the time, before I had made myself known to her as Mark Marno, partly responsible for the design of the very space-ship in which we were at that moment adrift. She appeared pleased in a measure I had not anticipated, and at once, seemingly forgetting our predicament, began firing technical questions at me, showing no small knowledge of space-ship design.

"Why are there no tubular tension members through the main salon?" she would ask me, referring to the unprecedented open space which our radical design had provided in the *Astra*, and I would sketch to her the multicellular vandium* shell construction of the cruiser. Or again, it would be a question of construction methods.

"How was a ship of this size erected without any visible antigravity leads on the plates?" she demanded of me, and I had to confess that the practical details of construction were in a large measure a mystery to me. No phase of space-engineering seemed strange to her.

It was some minutes before I recovered from my surprise sufficiently to interrupt her barrage of questions and demand of her the source of her surprising scientific knowledge. She looked at me in amazement.

"You know my name," she said. "I should think you would guess that I learned what I know from my father."

"Your father," I repeated, puzzled. *Amarin.* Surely I had seen the name somewhere.

"Perhaps you don't know him?" she

*Vandium: A synthetic metal of great strength.

queried, exhibiting, I thought, both indignation and scorn. "Harvey Wolfram?"

Then it all came to me. Harvey Wolfram was his name to the world. He was the greatest space-engineer of Pan-Europe, and he shared with many other great figures of his country the peculiarity of being better known by a nickname early acquired than by his own name. Harvey Amarin and Harvey Wolfram were one and the same person. I was covered with confusion, but Myria laughed at my discomfiture, and I saw that she had merely been teasing me with her assumed anger. There was no further hitch in our interchange of information, and soon we had temporarily satisfied our curiosity about each other and were busy planning our best course for the future.

We decided that, while it was reasonable to expect that a salvage party would reach the ship soon, we should see what we could do without aid from that quarter. First we must construct an air-lock from the refrigerator room to the rest of the ship so we could avail ourselves of the contents of the *Astra* without losing the atmosphere of the refrigerator room. Once an air-lock was made, we could reconnoiter in our space-suits before deciding on any definite course. Perhaps one of the starboard space-boats could be repaired, and in that case our course would be simple. Soon we would know. In the meantime, the refrigerator car contents furnished food and delicacies from its cargo beyond the wants of an epicure and intended for the aristocracy of Mars, and, as there was plenty of air from the atmosphere generator, we were in no immediate danger.

In constructing the air-lock, Myria proved an abler worker than I.

"You forgot to bring welding rods," was her first remark on examining the supplies I had obtained from the machine shop, and as a substitute we had to cut strips from the useless refrigerating apparatus with the radiolite outfit before we could proceed.

I am a mathematician, not a mechanic, but Myria proved an expert in all lines, and I supplied little but the manual strength necessary to force the ill-shaped parts of our rough construction into place while she skillfully welded them together. Had it not been for the lack of weight, we would have had trouble completing the room-like metal structure of the air-lock, built of the overly heavy metal plates we had been able to obtain from the refrigerating apparatus. But despite our handicaps, it grew rapidly into shape under our combined efforts. To work under conditions in which losing one's hold meant a balloon-like flight across the room was trying at first, and I was kept busy retrieving tools, myself, and sometimes a laughing Myria, but we soon accustomed ourselves to our lack of weight.

● In about two days' time, the structure was complete. Impatient to be the first to inspect the airless space-cruiser, Myria suggested that we both leave through the air-lock at once. Then, when I objected to this plan, she begged to be the first to venture forth. I insisted, however, that I go alone the first time, appearing stern and determined despite my inward qualms. I had never worn a space-suit before, but I did not say so, and Myria perhaps thought me as experienced a space-floater as she. At any rate, I won her to my proposal, and armed with a recoil gun and a radiolite lamp, I screwed on my helmet and entered the air-lock. I smiled at Myria, then shut the heavy vandium door with a clang and bolted it. I opened the valve to the space-ship and listened to the atmosphere of the air-lock whistle out until I could hear it no more. Then I unbolted the door of the ship side of the air-lock. It opened abruptly, and I was thrown out and down the passage by the air remaining in the lock.

Grasping a projecting handle on a valve, I arrested my flight, returned, and closed the air-lock door so that it could be used from the inside; then, focusing my radiolite lamp down the passage, I set out to explore the now darkened space-ship.

Strangely enough, I detected jarring

noises, transmitted by the ship's structure, as my helmet occasionally came in contact with the walls of the passage. These puzzled me for a moment, but I soon forgot them in the interest of the sights I beheld. Here was the main salon, dark as a cave, its furnishings floating about as I disturbed them. All was now in perfect silence as I floated across the room which had so recently been filled with the chattering of the passengers. I wondered if they had been picked up safely by some rescue vessel; I hoped so. But I felt that I had no time for considerations of that sort and hurried on to inspect the space-boats which might be easily reached by passages leading from this center of population of the space-ship.

Quickly, I made my way to number five boat, toward the stern, the remotest of all from the spot where the meteor had struck the vessel. Entering it, I was surprised to find that it appeared virtually undamaged, and I failed to understand why it had not been used in debarking passengers from the *Astra* until I discovered certain small damage to the control panels which would have rendered the boat dangerous if not unmanageable. I made a thorough examination of all the damaged apparatus, and, in the absence of any way of taking notes, I endeavored to fix my observations firmly in my mind in order to facilitate the obtaining of proper material for repairs. The damaged boat had been left open after the crash and was thus without atmosphere, but I considered that it must be air-tight, and I noted that the atmosphere generator was in working order.

Finishing my examination of boat number five, I visited the other starboard boats in turn, on the remote chance that they might contain undamaged apparatus which could be used in repairing the less damaged boat. As I had expected, all were considerably wrecked, the extent of the damage increasing as I neared the bow of the space-ship where the direct impact of the meteor had taken effect. I could find none of the delicate control apparatus worth salvaging, and was about to return to the refrigerator room to report the results of my observations to Myria when I was suddenly tempted to visit the wrecked control room and strong room in order to ascertain the amount of damage done by the direct impact of the meteorite. Perhaps, I thought, I might find that fragment which had struck the ship still embedded in its structure.

Deciding that no harm could come of satisfying my curiosity, I groped my way along damaged corridors among twisted fragments of structures in an effort to reach my objective. I was surprised to note definite jarrings and vibrations of the ship as I neared the control room, and I remembered those I had noticed soon after leaving the refrigerator room. Could some trapped survivors be endeavoring to free themselves from the forward portion of the wrecked space-ship, I wondered? Soon I found my progress blocked by impenetrable masses of wreckage. Perhaps I would have been wiser to have abandoned my investigations for the moment, but my curiosity was by that time so whetted by these signs of activity that my only thought was of how I might investigate further. Of course, I could obtain the radiolite welding and cutting outfit and cut my way through the wreckage, I considered, but a bolder and simpler plan occurred to me. Why not leave the ship and approach the wrecked portion from space? With my recoil gun to propel me, there was no danger of drifting away from the space-ship.

CHAPTER III

Pirates of Space

● The plan had scarcely occurred to my excited mind before I was at the nearest space-port and had it open. Pushing myself through, I floated out into space. Sloping away from me on all sides was the vast bulk of the space-ship. Everywhere in the inky blackness gleamed the brightest of stars. Slowly I floated away from the *Astra*, and more of its sloping surface was revealed to me, some cut off by its own shadow shielding it from the

rays of the sun. I discharged my recoil gun to propel me gently toward the bow of the ship. There, indeed, was the twisted wreckage caused by the meteor. But close by the damaged portion was a small space-ship, and working figures were clustered around the wreckage, illumined in that shadowed area by the rays of their radiolite lamps.

"A salvage crew!" was my first thought. But immediately I cast that idea aside with an exclamation of surprise. No salvage vessel ever looked like this. Besides, this vessel bore neither the insignia of American Interplanetary, nor any other. Moreover, it was too small! What could be the meaning of this? Why should an unknown space-vessel be beside the derelict *Astra*, and why should the crew be working on the wreckage? The control room? Nothing there was of interest. The strong room? As far as I knew, and I should have known, the *Astra* carried nothing of great value—unless—that was it! The platinum shipment to Mars! The regular shipment of platinum for scientific use had been due to be sent about the time of the *Astra's* departure from the earth. It was always sent in the utmost secrecy as to the exact date of departure and the vessel to carry it. The *Astra* might well have been chosen!

Could this strange space-ship be a robber, or a pirate? Then the meteor had been no real meteor! It had been a missile hurled by the pirate craft to cause the abandonment of the *Astra!* It must have gone astray, then, and, striking the strong room, locked the treasure in more securely than American Interplanetary could ever have hoped to do, to the discomfiture of the criminals. Their workers, clustered around the wreckage, must be furiously striving to penetrate the strong room before a salvage crew could arrive. In alarm and excitement, I decided to approach a little closer and learn what I could before returning to the refrigerator room where I had left Myria.

In accordance with this plan, I allowed myself to drift nearer to the scene of the pirate ship's activities. I was confident that I would not be seen in the blackness of space, though perhaps I was over-bold. However, I did not go very near, and was content to note, from the size and shape of the space-suits that the pirates must be Martians of the lower class. Suddenly two of the figures seemed to be gazing in my direction. Had I been seen? It seemed improbable, but I quickly discharged my recoil gun to drive me in the direction of the *Astra*. As I lost the smaller space-ship and the workers from view around the side of the *Astra*, I thought that I caught the glint of a radiolite lamp pointed in my direction. I felt quite sure, however, that my presence had not been certainly detected.

After a little manœuvering, I managed to get through the space-port by which I had left the *Astra* and, chancing collision with walls and corners, I hurriedly made my way through the corridors by means of my recoil gun, a rather risky process in confined quarters. I passed again through the salon, entered the more roughly equipped after part of the ship, and rapidly neared the corridor to the refrigerator room. As I went, I thought that perhaps it would be best if Myria and I should leave immediately in the disabled space-boat number five and try to repair the controls in flight with a view of escaping from the presence of the pirates—an excellent idea, but my plans were to be upset.

Beginning to grow somewhat anxious over the length of time I had been away, I entered the corridor to the refrigerator room. I made my way rapidly toward the air-lock. I reached it, to find the outer door open. Quickly I entered. The inner door was open as well; the refrigerator room was airless!

I hurried inside, half expecting to find Myria's mangled corpse within. Bitterly I reproached myself. I should never have left her! What could have happened? Had she tried to leave in search of me and mismanaged the air-lock? In that case, she might still be alive somewhere in the ship, protected from the vacuum by her space-suit. But for Myria to bungle in using the

air-lock was unthinkable. The pirates; that must have been it! All this time I was excitedly searching the room, but to no avail. At least I was spared the horror of finding the girl's body. She must be alive, I thought. I hurried out of the room and into the corridor, flashing my radiolite lamp in all directions. As I traveled farther, I glimpsed a figure at the end of the corridor. I shot myself in that direction with my recoil gun. There were two figures in space-units! They had escaped my notice as I hurried in. Could one be Myria?

I bumped into the end of the corridor and grasped one of the figures. A glance at the space helmet showed me the bloody, blotched face of a low caste Martian. His suit had been punctured; he had burst into the vacuum of space. With a shudder, I cast aside the body. Feverishly, I brought my light to bear on the helmet of the other space-suit. The face within was Myria's. I breathed a sigh of relief. At least her space-suit was still air-tight. But she was unconscious. Or was she—dead? What could I do? We were separated by a vacuum and our space-suits. Must I stand idly by while she perished? The air was gone from the refrigerator room, but I could replace it! I hurried back to the room, carrying Myria, only to find to my dismay that the air-lock door bolts had not been opened but cut with a radiolite torch. The room was no longer capable of retaining an atmosphere!

● What then could I do? I was in a quandary. Suddenly a way opened. I would take Myria to the number five space-boat, which was still airtight. By means of my recoil gun, I went as rapidly as I could, though my progress was hampered by the precious burden I carried. Through the rich salon, up the corridor—I caught only a fleeting glimpse of all—into the damaged space-boat at last! I laid Myria down, slammed the air-tight doors, and fumbled with the atmosphere generator. I watched the air pressure gauge creep around with infinite slowness as the density of the boat's atmosphere slowly increased. Would normal pressure never be reached? Finally the needle reached the green mark. I adjusted the regulating attachment and turned to Myria. She was still unconscious. Hurrying madly, I unscrewed her helmet and my own, and divested her of her space-suit. At least, she was alive; she was breathing! I rummaged through the boat's supplies till I found a tiny cylinder of xeno gas stimulant. This I held under her nostrils, watching her in anxiety. At last her eyelids fluttered, then opened! She seemed confused; then her mind cleared.

"Mark!" she said. "Then it's you. But what happened to the other?"

I was thrilled at the tone in which she uttered my name. The tenderness which I felt for her, suppressed in our moments of comradely activity, now welled up in me.

"He's dead," I answered her question. "His space-suit leaked."

She shuddered a little at the thought.

"Here," I said, "take these." I offered her some kolyndrol tablets, which she swallowed at my bidding. She rested for some moments, saying nothing, and I too was silent. It was in my mind to say, "I love you, Myria," but I could not find the courage, great as was my desire to tell her of my devotion. Then Myria spoke, and my opportunity was gone.

"I'm better, now," she said.

"I'm glad," was all I could manage. Then, "What happened, Myria?" And she told me.

It seemed that she had grown impatient of waiting after I had left. I surely had stayed longer than we intended. Finally she decided to leave the refrigerator room in search of me. She had donned her space-suit and had just fastened the helmet when she heard a noise at the air-lock, faintly, through the walls. She had thought that I was returning and had propelled herself toward the air-lock when suddenly it glowed white with heat, as if a radiolite torch had been turned on it. That, indeed, had been the case. Then, the bolts severed, the door had burst outward, impelled by the air pressure in the room.

She caught a glimpse of a squat figure in a space-suit, carrying a radiolite torch and a radiolite lamp, frantically clutching for a hold, weightless as he was, while the air rushed past. The Martian was swept out of sight, and she, in the mighty wind which whirled through the portal, followed him. She saw his radiolite lamp rushing down the corridor ahead of her. Then it went out, from the impact, she assumed. A split second later she felt a blow, and the next she remembered was my bending over her with the xeno stimulant.

I told her of the pirates, and we decided that one, perhaps in search of food, survivors, or in an exploration prompted by curiosity alone, had, in endeavoring to enter the refrigerator room, been unable to operate the unfamiliar bolts. Thoughtlessly, he had cut through the doors with a radiolite torch and released the pent-up force of the confined atmosphere, to his own destruction and to Myria's hazard. By good luck, or, I preferred to think, a just Providence, Myria had escaped. As it was, she was badly shaken up, though not, it seemed, seriously injured. How I had feared for her! And what if we should now perish, after escaping so many dangers? I breathed a vow that surely this should not be.

Whatever course we were to take, we should have to act speedily. If we lingered long, our presence was sure to be discovered by the Martian space-pirates. Indeed, they might suspect our presence at that moment, I thought, remembering the two workers who had gazed in my direction so shortly after I had discovered the presence of the pirate vessel. I judged that we could hardly delay our departure long enough to repair the space-boat completely. The *Astra* was probably at that moment being searched by his comrades for the Martian I knew to be dead, and that search would surely disclose our presence if we lingered.

Myria was of the opinion that we should cast off at once and, keeping in the shadow of the *Astra*, endeavor to repair the space-boat controls as we drifted. I was inclined to agree with her. It would be virtually impossible to detect the space-boat when shielded from the sun's rays by the bulk of the *Astra*. If once detected, we would be at the mercy of the pirates, however, and could be easily overhauled by their vessel. Could nothing be done to delay the criminal crew from any possible pursuit of us? We were weaponless in the space-boat. Even had we not been, the odds against us would have been too great for any surprise attack to succeed. Was there no way? As I meditated, a plan occurred to me. Was it practicable? Was it too bold? As I considered it, I became fired with enthusiasm. Perhaps we could at one time work our own salvation and trap the space pirates on the *Astra* as well!

CHAPTER IV

Salvage

● I decided not to divulge my plan to Myria, who, I thought, would probably object to it, but to carry it out secretly by myself. To this end I succeeded in convincing her that I must leave the space-boat for a time before our departure in order to obtain the materials absolutely necessary for repairs on the controls. This was indeed true, but I intended to do more than collect materials! As Myria was still too upset from her injury to wish to accompany me, she made no objection to my solitary departure, and soon I was through the boat's air-lock and into the corridors of the *Astra* to pay one last visit to that ill-fated vessel.

With all the haste I could summon, I made my way to the machine shop and obtained what I could of the supplies necessary for the repairs. In addition I secured an extra radiolite welding outfit, the largest in the shop. It was a semi-automatic machine with gravity clamps for fixing it to the surface to be welded, and it had an automatic, self-regulating feed. Had the artificial gravity been turned on in the space-ship, I should have been unable to move the welder unaided, but weightless, it proved only a trifle awkward to transport. Making sure that everything

was in readiness for a quick departure, I set about the dangerous part of my plan. In the machine shop was stored a considerable quantity of radiolite-A, fuel for the self-motivated machinery. No one knew better than I the explosive violence of this substance when not properly utilized in specially designed machinery. Now I intended to make deliberate use of this property. With the greatest of caution, I collected all of the radiolite-A in a corner of the shop next to the outer wall of the *Astra*. With extreme care and much trepidation, I removed the protective covering completely from several cylinders of the dangerous substance. These I placed near the other material, depending on the detonation to break the covering of the remainder of the radiolite-A. I then took a small radiolite welding torch and, putting it into action, set it in mid-air, or, rather, mid-space, before me. With neither gravity nor air currents to affect it, it remained motionless save for a slow drift due to the impulse I had accidentally given it in releasing it from my grasp. Now was the time for delicate manœuvering! With the utmost care, I directed it toward the mass of radiolite-A in the corner of the room. Slowly it drifted in the desired direction. I sighted along its path, observed it for a moment to see that it was not spinning, redirected it a little, and was satisfied. In five minutes at the most, the torch should reach the exposed radiolite-A. The whole mass would detonate, and the least the explosion could do would be to blow the side out of the *Astra*.

As soon as I was sure of the dependability of my device, I left the machine shop and carried the materials I had collected and the semi-automatic welding outfit to the nearest space-port, praying the while that I should not meet one of the Martian space-pirates. As I neared the space-port, I caught a glimpse of a radiolite lamp down the corridor, fortunately not turned in my direction. I extinguished my lamp, opened the space-port quickly, and flung myself and my burden into the void, hoping that I had not been seen. It seemed that luck was with me, for no investigating Martian appeared at the space-port which I had quitted.

Slowly, by means of my recoil gun, I made my way toward the bows of the *Astra*, always keeping close to the ship. Reaching the nose of the vessel on the opposite side from the pirate ship and its workers, I approached as near to the location of that outlaw band as I could without being seen around the curve of the *Astra's* sides. My manœuver had placed me directly opposite the quarter from which the pirates might be expected to see the explosion I had prepared, and I anxiously awaited it and its effect on them. Would it sufficiently distract them for my purpose?

I seemed to wait hours. Had my device failed to work? Had some of the Martians discovered it before it could function? Had the aim of the drifting torch been true? As I considered the last, I felt the *Astra* shake under me. Quickly I discharged my recoil gun, throwing myself toward the unseen pirate vessel. All now depended on my promptness. I rounded the curve of the nose. There was the pirate ship. The explosion had been observed! Part of the crew was rushing through space toward the wrecked machine shop. The side of the ship on which I approached was deserted. Now was my chance.

Hurrying on, I gained the underside of the pirate vessel where it rested against the *Astra*. Quickly I clamped the welding outfit to its side with the gravity clamps. I directed the welding head on the point of contact of the *Astra* and the pirate vessel, set the advance, and turned on the radiolite flame. I knew that in a few moments the two ships would be welded so firmly together that it would be virtually impossible to separate them without damage to the Martian craft. And all the time, the radiolite flame would eat deeper, insidiously melting the two ships together and denying approach by reason of the very heat it generated. If only it were not disturbed before the process was well started! Hastily inspecting my arrange-

ment, I arose, ready to fling myself into space. There, before me, was one of the Martian pirates!

Slow-witted or surprised, he did not seem to comprehend at once that I was not one of his comrades. The moment I saw him there, I knew that I must destroy him or my plan would be a failure. I flung myself at him, a course of action which he apparently did not expect. As we came in contact, I pushed against the side of the space-vessel and both of us were flung away toward the stars. His one idea seemed to be to poke a hole in my tough space-suit with a sort of bar-like tool that he held. As he clutched me with his legs and battered at me, I disregarded his blows and tore his recoil gun from its holster, flinging it from me to travel forever in the void. Then I concentrated my efforts on freeing myself from him. He did not seem to understand what I was doing, but kept pounding away at me with the bar. At last, with a mighty wrench, I managed to free myself. There was no need to do more. With no means of propelling himself, the poor wretch was doomed to drift helplessly through the heavens until he died of suffocation. A terrible but just fate, for he was one of that band of criminals who had deliberately wrecked a passenger-carrying space-cruiser. I could feel little pity for him.

● Suddenly it came to me, in my moment of triumph, that I felt strangely uncomfortable and giddy. In alarm, I gathered my thoughts. What could it be? A fateful hissing came to my ears. So the Martian had succeeded in his purpose. He had punctured my space-suit and the air I breathed was rapidly leaking into the void! Locating the hole beneath one arm, I pressed my arm against it to hinder the air's escape as much as possible, then turned the air supply full on. But it was only a matter of minutes, perhaps of seconds, I knew, before I should suffocate. Making directly for the space-port nearest boat number five, I risked discovery in an effort to reach that air-tight haven before I should perish. As I sped across the intervening space, I felt dimly a trickle on my upper lip and knew that my nose was beginning to bleed because of the reduced pressure around me. I felt a strange tightness in my ears and tried to relieve it by swallowing. I reached the space-port and dragged myself inside, then flung myself up the corridor toward boat five. I reached the air-lock and opened it. I was very weak by that time. Suddenly I felt an excruciating pain in my right ear. I vaguely knew that the ear drum had burst and remembered that this was no serious matter, that it would heal—if I did not perish before it had time! Laboriously I dragged myself into the air-lock, and dizzily fumbled at the bolts and closed the door. I gave the air-inlet valve a twist and collapsed, waiting for the life-giving air to fill the lock. I felt a ringing in my ears, and the next thing I knew, I was in the space-boat, and Myria was removing my space-suit!

"Lie still," she said to me. "Lie still and let me do it," and she smiled.

Nevertheless, I lent my fumbling aid and was soon divested of my useless space-suit. Then I considered the situation—visions of Martian pirates invading the space-boat came before my eyes.

"Where are we?" I asked.

"In space," said Myria, "about ten kilos from the *Astra*."

I breathed a sigh of relief. Of course I need not have worried. Myria had cast free from the *Astra*, and the launching springs had thrown us out and away. Then I explained to Myria what I had done. She nodded but made no comment.

"The pirates?" I asked. "Did they detect us?"

"They saw us leave," she said, "but they haven't located us yet." I impelled myself toward an observation port and Myria went with me. Gazing out, I saw nothing for the moment.

"We're in the shadow," explained Myria.

Then, looking more closely, I saw a huge patch of darkness in the heavens, outlined by a faint line of light. It was the *Astra*, making its presence known only

by the fact that it cut off the sun and stars from view and by the faint line of diffracted sunlight that framed it. We were rapidly drifting away, helpless in our uncontrollable space-boat. At any rate, we had left the pirates behind us.

As I gazed toward the *Astra*, a blinding spot of light suddenly appeared at one edge of the black silhouette. It grew larger, more blazing, and I had to turn my eyes from it. We had emerged from the *Astra's* shadow and that blinding orb was the sun! Would the space-pirates detect us by its light? Anxiously, I took a pair of binoculars and scanned the bulk of the *Astra*. Myria did likewise. Nothing appeared. Suddenly a flash and streamer of flame proceeded from the still shadowed *Astra*. What did it mean? The flash could have been but one thing, an explosion!

Then its cause came to me. The radiolite welding outfit! Uncontrolled, it had eaten its way into the pirate vessel and had either exploded or had set off something in the vessel. At least, the pirates would not follow us in their space-ship! At that moment we saw the shattered hulk of the pirate craft emerge from the *Astra's* shadow. It whirled toward us with a tremendous velocity. For a moment I feared a collision, but it passed at fully a half-kilo's distance. One end had been completely torn away by the awful force of the explosion. If we were marooned in space, the luckless pirates certainly were no less so. I could only assume, however, that they had abandoned the ship before the explosion, aware of what was coming, and were now on the *Astra*, helplessly awaiting capture by the salvage vessel which must eventually come to reclaim the wreckage, or more desperately, plotting to overcome its crew and embark on new feats of outlawry. Whatever the *Astra's* fate, and the pirates', we were done with it, I thought.

● Adrift, helpless in a space-boat, there was little we could do. After my space-suit had been punctured in my fight with the Martian, I had been forced to abandon the repair materials I had collected. Without them, the repair of the space-boat's controls was a hopeless task. What would be our fate? Would we eventually be located by some ship's gravity detectors and rescued? More likely we would wander on through the solar system to die of suffocation and starvation, or would find our grave on some planet where the fused wreck of the space-boat would mark our tomb! Myria evidently had much the same thoughts, though she said nothing. In silence, we gazed at the *Astra*. Suddenly I exclaimed.

"Did you see that flash?" I asked.

"Amidships against the outline of the *Astra*," Myria affirmed.

"It was a recoil gun," I said.

"I know," she replied. "It must be the Martians."

Tensely we waited. The darkness was broken by occasional flashes. Soon it became evident that the pirates were moving toward our space-boat by means of their recoil guns! Then the first figure emerged from the *Astra's* shadow, a tiny speck of light. Several more appeared. Myria and I raised our glasses. The figures were certainly those of the Martian space-pirates! I could see that they were carrying along some bulky apparatus.

"A Martian D-Nitro gun!" exclaimed Myria.

I had heard of the apparatus. So the space-pirates were bent on the conquest of the unarmed space-boat. Despairingly, I gazed at the oncoming horde. We were doomed to capture despite all our vain efforts! I turned to Myria.

"There's a chance for you," I said. "Your space-suit is in good condition. Leave the space-boat with your recoil gun. Perhaps you can get to the *Astra* unobserved and save yourself."

It was a forlorn hope, but the best I could offer.

"And leave you, Mark?" she questioned, smiling a little at the suggestion.

Once again I was overwhelmed by my feeling for this girl that I had known for so short a time but had grown to love so dearly. Perhaps we had only a few more moments together. I searched vainly for

words that would tell her of my devotion, only to stammer haltingly—

"Myria, I love you."

"Oh, Mark," she replied, "Didn't you know that I was hoping and wishing for you to tell me that? Oh, Mark!"

As I held her to me, I noticed that she was sobbing and laughing at the same time, nor was I far from tears myself. That this moment should have come to us only to end so soon! How could fate be so cruel as to part us now, I asked myself?

Clinging together, Myria and I gazed at the approaching pirates. I tried to hope that we might escape from their hands, but it was a melancholy thought, for I realized how cheaply life is held by the inferior peoples of Mars. We had been responsible for disaster to them; they would do no less than take their revenge. My gloomy meditations were interrupted by a startling occurrence. My eyes had been following the course of the Martians, and now, to my great surprise, they abruptly halted in their course!

"They're turning back!" cried Myria.

They were! For some inexplicable reason, the Martians had suddenly reversed their course and were fleeing toward the *Astra*. What could this portend? Would it mean our salvation, or had the pirates merely decided on some other course of attack? Suddenly I believed that I comprehended. I turned and looked through the opposite port. I shouted with joy and in my happy delirium grabbed Myria and whirled her wildly about till she too could see the cause of the pirates' retreat.

● There, rapidly nearing, was a huge space-vessel bearing the American Interplanetary insignia, and close to it was an International Patrol cruiser. Myria turned to me, radiant with joy. The salvage vessel had evidently sighted us, for it was drawing near, and I could see the gravity hooks ready and the huge air-lock opening to receive our little space-boat. The patrol cruiser was proceeding on toward the *Astra*. Evidently some of the *Astra's* crew had suspected the nature of the "meteor" which had wrecked that vessel, or else the presence of the pirates had been otherwise discovered.

The salvage ship's gravity hooks drew us into the air-lock. Doors closed behind us. Outside, we could see figures in space-suits manipulating the apparatus. Soon the whistling of air into the air-lock was faintly audible through the space-boat's shell. The rush of air diminished, then ceased. Together, Myria and I went to the space-port of the boat, opened it, and walked through to security and our new life together.

THE END

Old Age Ascribed to Double-Weight Water And Clue to "Fountain of Youth" is Seen

(From the *New York Times*, March 9, 1934)

The suggestion that science is on the track of the mythical "fountain of youth" is contained in a communication to the current issue of "Science," official organ of the American Association for the Advancement of Science.

Drs. Ingo W. D Hackh and E. H. Westling of the College of Physicians and Surgeons, School of Dentistry, San Francisco, present the hypothesis that old age and senility are caused by the accumulation of too much "heavy water" in the body. Large doses of "heavy water," which contain hydrogen weighing twice as much as the hydrogen in ordinary water, have been found by experiment to retard and often to stop the growth of seedlings.

If this theory should be upheld by experiment it would mean that the legendary fountain of youth could be produced in the laboratory by eliminating the small fraction of "heavy water," about one part to every five thousand, from the water or other liquids taken in by the body.

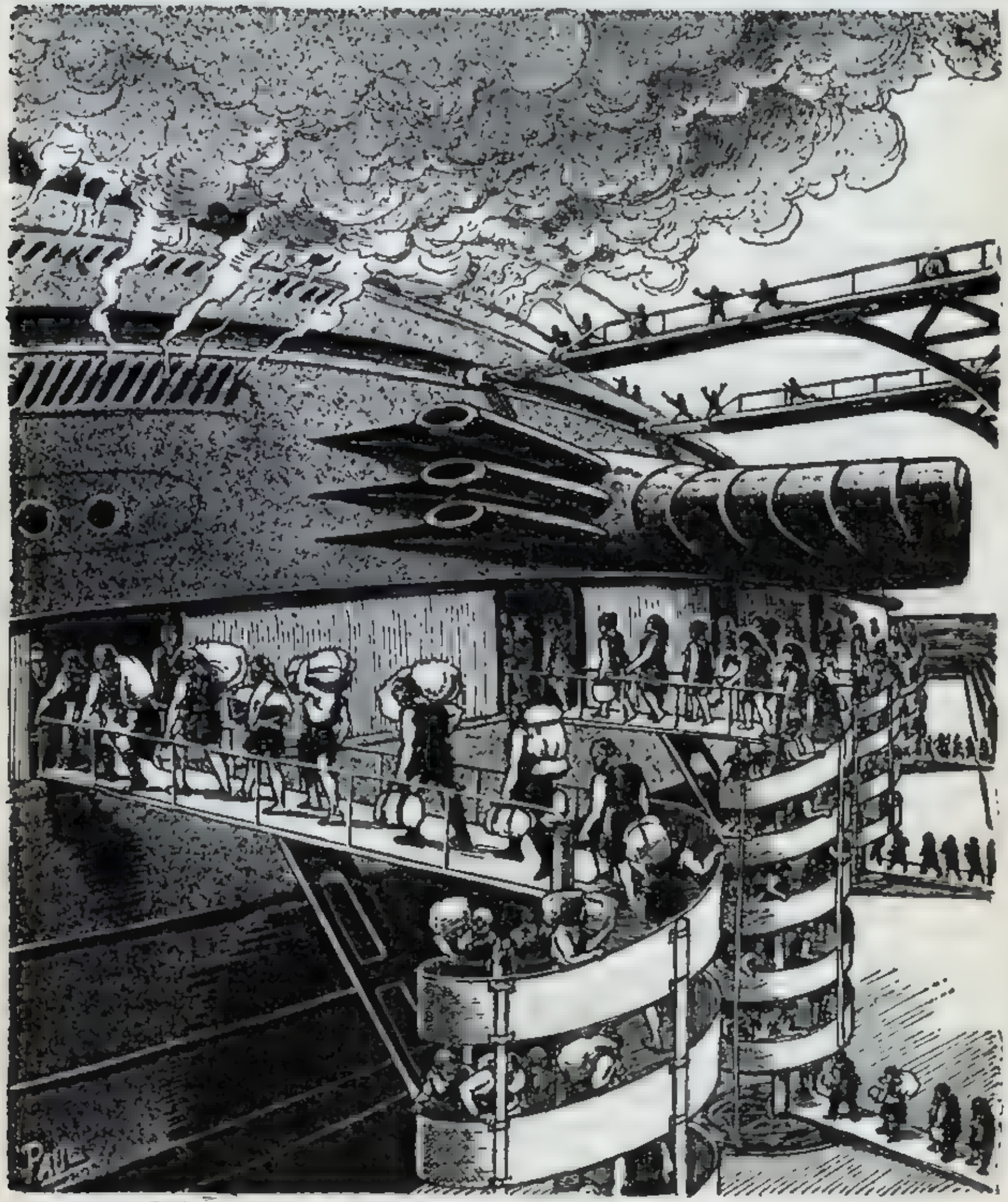
While ordinary water boils at 100 degrees Centigrade, Drs. Hackh and Westling point out, the heavy water boils at 101.42 degrees Centigrade. Its inhibition of the growth of seedlings, on the other hand, seems to indicate, they reason, "that it has an inhibitory effect upon the normal functioning of the protoplasm.

"As the human body evaporates a large proportion of its water intake, it will in the course of years become enriched with heavy water," they say. "This increase in the proportion of heavy water in the body fluids may account for the increasing inhibitory action of the protoplasm during senility."

The lighter water evaporating at a lower temperature, according to this theory, would leave the body more easily than the heavy water, which would thus accumulate in the course of years.

While experiments show that too much heavy water retards or even stops growth in plants altogether, other experiments have shown that small doses of this liquid speed up growth enormously. This latter finding is of considerable interest to workers in cancer research.

Other experiments have recently shown that willow trees, and possibly other plants, possess the ability to separate the heavy water from the light water. All these findings suggest that the recently discovered double-weight hydrogen water plays some important role in the life processes.



(Illustration by Paul)

There was a shrill sound of whistling and a whirl of smoke from overhead.

DRUSO

By FRIEDRICH FREKSA

(Translated from the German by Fletcher Pratt)

PART TWO

WHAT HAS GONE BEFORE

● **The story opens in the twenty-first century when the Sleepers are to be brought back to animate existence. A hundred years before, seventy-five of the greatest scientists had been put into the state of suspended animation which was to last for a century. The purpose of this deed was to preserve the knowledge of one century for the next, for books were often inaccurate and changed with the years. A great ceremony is held when these servants of humanity awaken to an unfamiliar age. The experiment had proven so much of a success that it was decided to repeat it. Alf Bentink and his wife, Judith, sacrifice themselves to join the Sleepers who were never to see their family or friends again. When Alf awakens from the hibernation, he learns that only himself, his wife, and two others have survived—the others could not be brought back. He is astounded to discover that they had been asleep, not for one hundred years, but for three centuries! Shortly after the chamber of the Sleepers had been sealed, a terror descended upon the earth which threatened the very existence of mankind. From the star Druso had come a race of insect-creatures which had taken from mankind his entire civilization and reduced him to rank barbarism, forcing him to worship the gods from the skies. Luckily, Alf and the other three had been awakened by a remnant of men who hid away in the Arctic to escape the ordeals of the insect-gods. They live only in the hope that they may some day rid the earth of the terror from Druso. Alf Bentink is relating the narrative in the first person.** ***NOW GO ON WITH THE STORY:***

● **Now that we have seen the world of the twenty-fourth century in which man has been thrown thousands of years backward along the evolutionary scale, tremendous revelations are in store for us.**

Insect invaders from the star Druso who carry their world where they will have enslaved humanity and taken away their scientific accomplishments to leave them in the barbarous state of their remote ancestors, worshiping a false god.

But in the far north still exists a remnant of civilization's peak among which are the sleepers from three hundred years in the past, the age in which man had achieved his greatest attainments. They live but for one thing—to bring back to their kind their rightful dominion of the earth. Whether their efforts are in vain or not, we are yet to learn.

CHAPTER XII

The New Captain

● **At last, on the eighth day, we ran into a bight of the sea. We saw the fire of a habitation and were taken into a big stone building. Before an open fire in a great hall stood a huge blond man with** his hair turning gray around the edges. His strong blue eyes opened wider as though he wished to look us over all at once, and with a touch of arrogance, he greeted Hurst, Flius, and myself. Then Thankmar took Judith's hand and led her forward. The man, who had held his chin high and his shoulders back as he greeted us, lifted his arms and then sank to his knees with the words, "Queen of the Earth!" and lifted the hem of Judith's garment to his lips. Then he stood up once more and stroked the head of the child. "Urania must be her name," he said, "since she has come to us from heaven out of the old times and shall be the new queen of the world."

Then and then only, he extended his hand to us. He was Liuwenhord, the commander of the people of Boothia Felix. In a short-cut robe, like a hunter of the Middle Ages, he stood before the fire. "Warm yourselves and take a little rest," he said. "In four days, our flyers will arrive to take us to the last home of humanity."

We looked at each other, while Thankmar explained that in the language of these people, Boothia Felix was frequently referred to as the last home of humanity.— "Since," he went on, "the others who live on the earth are hardly human now."

And for the first time, the great problem of the future stood before us—what would happen to these other races if we freed the earth from the dominance of Druso?

Liuwenhord was a real leader, born to command. His very name, that meant "lion-head," was like a symbol of his character.

At first, he sat listening silently, but his restless grey-blue eyes showed the inner participation in all that was going on. He was like a father before us. Each of us he took aside alone for some time, preferably for a long walk.

"We will work together," he declared, striding along through the lonely land of dwarf birches and juniper bushes. We climbed a rock and looked out over the sea, shimmering like grey ice. But Liuwenhord drew a deep breath and cried, "The earth-mother is breathing."

The earth was ever his mother, light his god.

Druso was for him the personification of evil. Here beings had arisen to destroy the sacred harmony of the heavens. He felt in himself the holy ardor that animates all revolutionaries.

But Flius persisted in his despondent questionings; why should not other beings, if they could, have as good a right to rule the world as men? We talked about this problem as scientists and men to whom it was usual to look on both sides of a question.

For the most part, we sat in Flius' room and I disagreed with this intellectualized doctrine which Hurst was half-inclined to accept. Both of them were interested in delving into all the aspects of the question, even into the "souls" of the Drusonians. Hurst said, one night while he was explaining this doctrine of despair, "It would be so simple if mankind would be resigned and eliminate itself through death. We would be out of it all and the Drusonians with us. Only in the depths of the sea would certain organisms remain, and they could begin things on a new basis—in a million years." And Flius agreed bitterly, "Man's day is ended. Since he has been weak enough to let the earth be taken from him, good; he is not worthy to have it."

About the seventh day of our stay there, both of them were again in one of these hopeless moods. Judith came in with her little daughter in her arms. Once more the words came out, "Why not make an end of it all?" But it was Judith who found the answer, "Because this child forbids it!"

As she spoke, Liuwenhord had come in. He said nothing, looked at Judith a moment with his lion's eyes, went to Flius' bedside, lifted him up like a feather in his great arms and shouted, "We must bring this one before God!" As a matter of fact, the sun had broken through the clouds again and the whole northland looked as though it were wrought of metal, of iron, bronze, and silver. Liuwenhord laid the sick man on a reclining chair, threw a robe over his feet, and addressing the sun, said, "Warm him, O God, and enlighten him!"

To us men of a scientific world, it all seemed like something out of an old book, an act by a mystic, a poet, or a prophet. We could not withdraw ourselves from the spell of personality he cast around him.

Liuwenhord took a strong glass from his pocket and said, "We can see some distance toward the South Bay. The Lapp hunters of this neighborhood say there was a temple of power sunk there. Although we have had this station here for some time, this is the first time I have heard of it, for this whole neighborhood, for miles around, has been avoided by the tribes. They say they will fall dead if they approach too near the South Bay. We have been collecting such tales for centuries and examining them, and, in most cases, we have found that there was some foundation of fact beneath them. Even your rescue goes back to one of these

legends originally. It was through this means that the temple at Aachen was first located. Now what do you know about this South Bay?" He produced a geography of our own days and showed us the locality on the map. "See," he said, "since three hundred years ago, the land has risen here and the landmarks are altogether changed, although a few of them remain. There on the South Bay is marked a place called a Karaga-Queenshaven. What do you know about it?"

"Karaga!" cried Flius, and for the first time since we had awakened, seemed to be fully alive. "That is where I used to work."

"What kind of work did you do there?" asked Liuwenhord.

"We were following out a great vein of coal that, at a depth of eight hundred meters, turned into a level very rich in radium. This was used in our power stations."

"What kind of power?" inquired Liuwenhord further. And while Flius, sunk in his memories, stared into the distance with vacant eyes, the leader laid a hand on his elbow and shook him. "Speak the word that I hope to hear. The God has enlightened you."

Our companion stammered, "We built an atomic destruction power station there. We could produce any quantity of electricity we wished. You know—or perhaps you don't—how much energy is set free in the destruction of an atom."

"We have been trying to find that for a hundred years," said Liuwenhord, "and at last you are bringing light on the question. If we can find it, it means the freeing of the earth!"

"Sternenhjelm, the head of our meteorological station, has told me that we could get enough power from atomic destruction to send Druso whirling out into space. To destroy the Oracle stations would be nothing but child's play if we could once accomplish that."

● We looked at each other and Flius breathed deeply. He took the glass and looked through it at the sides of the South Bay. "I recognize the Double Mountain," he said. "In the saddle there lay the power house. Queenshaven was only a harbor for the shipping and a landing field for airplanes. The power house was strictly guarded and no one but the employees were allowed in it. We had built an electrical beam-field around the place, at least twelve miles wide, to make any approach to it impossible, and there was a warning bell in the power house itself connected with a device to reveal any approach from above so that no one could approach even through the air without our knowing it." And he added, thoughtfully, "I cannot understand why the engineers there did not release the power they had available to defend themselves against Druso."

"Didn't Thankmar explain to you that these beings from Druso caught everyone in their artistically prepared web of lies before they made their attack? No, no; I who have followed the old journals of the days can understand it perfectly. The thought of war was so far from the men of those days that they considered it frankly impossible. All their thoughts were of what they could learn from the new planetary culture.

"The life of your days must have been very tiresome with its eternal peace, I have often thought. Everybody had everything he needed, people were well governed, and inequality in the laws and their administration had sunk to an irreducible minimum. Whoever came into your world had his share of life and enjoyments before him, until I have often thought that work itself must have been a pleasure, since it was only a change for you." And he finished, "I don't think I would have cared to live in such a world, without desire, peril, or will."

We citizens of that other world looked at each other again. Hurst sighed and stood up. "I have felt the same," he said. "But we had so much still to do and to discover. The wars of our time took place in the battlefields of science."

Liuwenhord nodded. "Such a period will come again, though, I think, with al-

terations. Mankind will never again forget, I think, that the earth was once stolen from them. And it is our duty to free and save this earth and her children." And with these words, he laid his hand on Judith's baby.

After Liuwenhord had given his decision, to our great astonishment, we saw Flius pace unquietly back and forth on the terrace, shaking his head and turning away from everyone who tried to speak to him, and finally leaving the house altogether. We were worried about our companion; it was the best thing in the world for him to move about and get his strength back, but at the same time, his forbidding aspect was hardly normal. Contrary to our advice, up to the present he had spent all his time flat on his back, barely taking the few strides necessary to carry him from his hammock to his bed or his bed to his hammock. His physical condition was as bad as possible. So when he left in this manner, I took the liberty of following him. I noticed that he went down to the beach, wandered around a bit, observing the house. And still he seemed uneasy, wandering here and there, and climbing, unaided, among the boulders by the shore. Finally he turned to the right, climbed up the slope, and mounted toward a point that our people called the White Cape. It was a good hour's climb. I followed him through the glass and saw him attain the summit and then lie on the ground, his shoulders shaking with sobs.

I followed him, lying in a little clump of shrubs till the spasm that shook him had passed. Then I saw how he rose again and made a movement of his hand around the horizon. I was at the crest and near him, when he seemed to collapse suddenly. I got his shoes and socks off, massaged his feet, playing the altogether impersonal helper, without a word to say. His eyes opened and he looked at me; and as he did so, I pressed a few drops of a strengthening medicament between his lips. Then I rubbed his foot with a flat stone, since the human body is a kind of accumulator as Schleich once taught. The men of our time knew that there was nothing better for the refreshing of the body than to go for a long walk, barefoot over ground not too cold; and massaging the soles of the feet is the best substitute.

Flius understood what I was doing and smiled weakly. "Simply my own neglect," he said. "You are right, but I was in a kind of dream; I could not find myself in this life, that is nevertheless my life, or else"—he paused and then went on—"or rather is it your life that you are living here? Have you not been grievously robbed somehow? Yes, truly, I forgot—" and his voice became bitter—"you have Judith. You have a child, and you don't know how much it means for you.

"I have come here as though in a dream, and am not yet certain whether this is the old world or not. See, here on this cape stood a little meteorological observation station. Here is where I first met Maria Langeland. But you do not understand how the women of our day had forgotten their sex. She put marriage aside to solve her scientific problems. With Maria's help I had begun to work in the chemistry of the atmosphere, and to her inspiration, my best work was due. That time when we made the visit to you there in South America, I hoped our friendship would grow into a union, born out of this work, and that it would end in the marriage for which I longed. I only noticed how she was drifting away from me, hour by hour, minute by minute. And so at last, I accepted the ironic foolscap of our expedition into time. Earlier, I had been only on the list of substitutes, but the researches I undertook with Maria took me to the first place. She, whom I loved, had hounded me on and wrote me a letter to say that she was proud of me when the choice was made known. Now I come here into this gray land, that once seemed so golden to me, and all my dreams are shattered. The earth itself is no longer ruled by men but by a swarm of insects. And we men are the beings who are degraded into a new kind of beastliness.

"Do you remember, Alf, how we used to laugh at old Professor Seurat of the Sorbonne when he came back every year to the same little oration? 'You young men think that the earth belongs to mankind. You are mistaken. The earth belongs to the insects, and we men are nothing but the prey of the insects.' And now that figure of speech has become a fact. What are we men for, after all? Why have we worked?"

"We will set the earth free from the Drusonians," I answered.

Flius laughed. "Liuwenhord's suggestion is at work on you. Those Atlanteans have been warming themselves at the fire of their hopes there in Boothia Felix for three hundred years now."

"What are three hundred years in the history of humanity?" I asked.

Flius turned his head. "You do not wish to understand me."

During the talk, we had risen and begun our homeward way. I had to help him frequently and was glad when our sea-boat came into sight below. Judith was at the tiller, Hurst in the prow. Though the sea boiled around the rocks, there was a sort of natural dock between two of them where it could come to land; and with some difficulty, I got Flius on board. The unwonted effort and his inner excitement had altogether tired him, and Judith gave him a glass of fruit juice. He drank it off, stretched out, and as we protected his eyes from the last light of the day, he dropped off to sleep like a child.

Liuwenhord came to see him in the afternoon and praised him in our hearing. "It's a good idea to strengthen your body," he remarked, "since you will have to be our captain when we visit the old place."

Flius turned pale. "Be the captain?" he asked.

"Right," said Liuwenhord. "You will command us so that we do not destroy things in our ignorance. If we had had you for a captain at Aachen, we could have brought back more of your companions to life."

When he had gone, Flius sighed. "What kind of a world is this," he asked, "that demands and still demands?"

CHAPTER XIII

The Ancient Hospital

● I had a long talk with Judith. "I wonder why it is," I said, "that we men stand in this new life like trees that have been transplanted and have now begun to dry up, while you seem to have grown altogether into the new world?"

"Because I am part of the new world," answered she. "I have the baby. Liuwenhord spoke to me the other day and cleared the question up. Leave the other two out of it. These people of Boothia Felix still don't understand them. Your own mental processes are more refined. But these Atlanteans are beyond you; they live one for the other and are glad to have you as a leader. They wish nothing but the freedom of this earth; they are filled with a great spirit of unity and sacrifice. But you are still wrapped around with your usual life; you woke up disappointed. You cannot forget that we messengers through time were accustomed to give, but also to receive. You wanted to begin the life of the world with new strength, to learn a whole century's accumulation of new things all at once. Now you are awake and the wheel of time has turned backward, and you have not yet attained the will to battle and press forward. But all that will change when you get to living in close association with the others, when you manage to order your life and give as well as take. You need a woman for that. That is,"—and she reached out her arms—"you need me."

She was right. Judith would always be the only complete woman for me, even when other women were present. To live alone is fine when you know that a whole world stands behind your loneliness. But to live alone without sensing a world behind one, that is to freeze the soul.

Liuwenhord seemed quite clear as to what we lacked to give us our full energy

once more. He ordered that all meals be eaten in company, whereas, up to the present, we had kept more or less to ourselves. Thankmar and his people had treated us almost like demigods. Now, with the common meals, we learned more about these people in two or three days than in all the weeks before. We took part in the preparations for the expedition, including the heavy physical labor, and at the table we heard bits of news from Boothia Felix.

Hurst found a new interest. He dug out the machines and began to improve them. Around him a happy circle of workmen collected, and he freshened noticeably. I observed how pleased Liuwenhord was with this development. He told me, "You must overcome all that stagnation of the spirit, like Hurst. Find something to do."

The news that came from Boothia Felix reminded us of the news of our earlier days. It told us of debates of sports and records, and from my own experience, I remembered that the athletes of our day had done better. But I quickly perceived that the reason was that, in our time, we had specialized, while out there in Boothia Felix, the object seemed to be to build all-around athletes, as with the ancient Greeks. But especially there was a piece of news that affected us; the high council had received a prophecy from the Mother—that is, from a woman who fulfilled the office of priestess of the inner temple. The Mother declared that the freeing of the earth had become nearer through the discovery of the sleepers in the Sun-Temple at Aachen.

And now what we had before supposed became altogether clear, that the religious cult of these Atlantean people revolved around the sun. Through the ancient periphrasis of northern speech, the sun had become the Great Mother, occupying the place formerly assigned to the earth. Our sleeping place at Aachen was declared to be a temple of the sun, since we brought with us new light for humanity. But beyond this, we heard also of the Knower of the great It. This Knower was Ferryman, the young man Judith and I had met at the door of the cathedral and whom I had inwardly derided as one possessed.

As we learned more of the matter, we perceived that all the lawgiving and judicial functions of humanity had passed into a form of matriarchy. Liuwenhord himself explained it to us. "All that belongs to the effort to free the world," he said, "all the weapons and means of handling them, everything directed toward the outward, belongs to the men. Since the number of men is strictly limited, there remain very few who can give any time to the building up of the communal state at Boothia Felix. It is simply a recognition of existing conditions that we leave all the inner orientation of the state to the women in Boothia Felix. We live there like an army in the trenches before it is about to make an attack. The men are the soldiers, therefore the women must care for all the auxiliary services connected with the maintenance of the people.

"I am the chieftain, the commander of the young men, and will retain the office as long as I am able. When I become too old, some other will replace me and I will take my place on the council of elder statesmen. Everything I do concerning the life of the young men, I am responsible for before the council of the mothers, since they, who give life, have a right to decide whether it is being expended wisely."

Judith remarked, "According to the researches of our day, there was a solar religion a thousand years before our time, with the result that the women were the rulers there also. That was the age, according to old legends, when the ancient Atlanteans came from the north and spread about the earth. They were the first sailors, and your boats remind us very much of them."

"Our sailboats," explained Liuwenhord, "are built in this way so that the Drusonians will not be suspicious of them. We make boats with mechanical power also, and we have even succeeded in building submarines. Our forefathers at the Boothia Felix station left us complete directions for these wonders of the technique of your age, and we find them neces-

sary for trips to the equatorial seas. Here, in the north, we don't use them unless there is a very important emergency, since, as you must have noticed, we have to hide everything. That, at least, is one thing we have learned in the last century. If the Drusonians spied so much as one cleverly constructed machine, our whole existence would be imperiled and perhaps lost."

"Do you have stations under the equator also?" I asked.

● He informed us that certain of the islands that had risen from the Atlantic bed had been taken possession of by seafaring Atlanteans, as well as the Falklands, the Galapagos Islands, and St. Helena and some of the islands around the edge of the south polar sea.

"We are safe there," explained Liuwenhord. "Only the Drusonians know how to make voyages in large ships and they do not bother with islands as small as these. They are used as agricultural stations; we find it difficult to raise all the food we need in the north."

Liuwenhord knew enough about mankind to realize that he did not need to fire us with the same mighty energy he possessed; he attempted rather to treat us as equals and gain our intellectual cooperation.

It was decided that, on Monday, an expedition should be made to South Bay. Sunday, after breakfast, we all gathered in the great hall. The whole place had been decorated with greens. What struck us most forcibly, however, was the silver statue of a man which stood on an altar, behind him a cross. We were informed that this statue did not represent the God's son from Galilee, as the Atlanteans called Jesus Christ, but a light-bringer, the ancient, eternal, ever-returning, who, according to the legends of the Atlanteans, had allowed his spirit to speak through the carpenter's son of Galilee. This was the first time since our awakening that we had attended any religious observance. Liuwenhord himself fulfilled the office of priest. He came in, not, indeed, in priestly vestments, but dressed in his best. And he spoke, "Lift up your hearts! Let us turn our thoughts to Him who is the Giver of all law and order to this universe. Our fathers and forefathers have sought after Him and have died in martyrdom to give Him a name. And at the end, we have called Him merely God as He has called us Men, to whom He sends His light. God! Bringer of the light! Hero—these are our names for Him, as Ferryman taught us. Let us worship Him to whom the days are not units but a part of eternity, space no distance but a unity, who has shown us a sign and a wonder in that He has sent us the father, the mother, and the child who are here before you."

And he laid before us a picture of God and his belief that struck to our hearts so that we could not but agree with him.

Flius turned to Judith and said, "I think the better part of mankind is awakening once more. What are science, technology, and knowledge against the feelings that a man of faith experiences in his visions?"

Judith glanced at me. I nodded. "We laughed at Ferryman, but today we are riding in the same boat across the sea of a new epoch in the history of humanity," her glance said to me.

Liuwenhord, Thankmar, Flius, Hurst, and I got into our sea-boat with twenty-four of the Atlanteans, and in a couple of hours had covered the distance to South Bay. The water was still and transparent; the river had almost eliminated the salt from the landlocked bay. We stood on a flat beach, out of which rose a curious rock formation, two little hummocks, no more than nine or ten feet high.

Flius' face had taken on a tortured expression. "The land has changed," he sighed.

Hurst spoke, "Isn't that over there the old pier warehouse?—and isn't that the ruin of the concrete pier?"

"Now I know," said Flius. "We can land at the West Mole."

We had to take the boat around, anchor it, and wade through the shallow water. Flius went the length of the ancient mole with eyes almost closed, turned

left, and said, "Here is where the great stairway to the plateau was." Before us was a wilderness with pieces of ancient masonry tossed about. Liuwenhord gave orders to some of his followers. A couple of the young men got into their climbing togs and went nimbly up the hundred and fifty-foot height, to drop a line a moment later. With its aid, we managed to get to the top.

Hurst drew forth his pocket dynamometer and glanced at it. "There seem to be no signs of escaping energy," he said. "We can go forward without danger."

Liuwenhord saw the instrument and asked its use. When Hurst had explained, he said, "The electrical barriers must have remained in operation for a hundred years at least, for the Lapps are most unanxious to approach this place."

"This way," called Flius, closing his eyes to remember. "A hundred yards inward was the big radio station." Nothing of it remained. He looked around. "Odd that the whole earth is dug up this way. It was paved with granite in my day."

We went along and found ourselves looking down into a frightful hole. Almost three hundred feet the earth went down in a craterlike depression.

"Earthquake?" asked Thankmar.

"No," I said. "There's no lava or dust or boliths. Something else must have taken place here, perhaps a battle with the Drusonians."

Liuwenhord shook his head. "We know the traces of the Drusonian weapons. They use gases that combine chemically with the earth and reduce it almost to a powder. Our forefathers at Boothia Felix were only saved because the cold stone and ice did not readily form the proper chemical reactions. When you go there, we will show you the traces of the old combats along the west coast."

● It was at least an hour before we could work around the great crater to reach the other side.

"There was a fold of the earth here," declared Flius, "and in the center of it, well protected, lay the station."

The little valley was discovered. It was filled with berry bushes and dwarf birch, an impassable tangle of vegetation. The Atlanteans cut a way through with their little axes. Toward afternoon, they had cleared a path to the center and we saw a little hill of detritus, overgrown with wild cabbage, berry bushes, and shrubs.

"It must be here," said Flius hopefully.

Some of the Atlanteans began to clear away the plants. When they had finished their job, an opening, a window, was revealed.

We lifted Flius through it. There was a rustling sound inside and one or two birds flew forth.

"It's the hospital!" he called from within. "I am in the doctors' consultation room. The instruments are all laid out in order and hardly at all rusted. Some catastrophe must have struck the place very suddenly. Watch from the outside; I'll pound on the door and you dig around the place where you hear me. We'll get it open. From here, I think I can find my way into the main station."

We heard the pounding from inside and ran around the hillock, and the Atlanteans quickly freed the door. More than two feet of plants and shrubbery had to be cleared away.

Flius met us at the door, pale as a ghost. "The beds," he declared, "are altogether rotted and fallen through, but the frames are still there like skeletons." And he showed us the ward and the doctor's bedroom. The furniture, built of metal and glass, had endured the hand of time, for the rustless metals of our age would withstand almost anything but active destruction.

Liuwenhord looked around. "We can still put this station to good use," he said.

Meanwhile, we had to restore Flius. His inner excitement and the effort had weakened him. After a moment, however, he was up again, heading right through the building, through wreckage and ruins, and then turning sharply to the left. We stood before another and higher mound.

"Here is the door," he cried. A set of

steps was cleared with the Atlanteans working fast, the fever of discovery and curiosity burning in them. A great steel door was finally laid bare, but we stood helpless before it. It seemed to be locked on the inside, or at least stuck in its frame.

"Above the door is a balcony and one can get into the main assembly hall from it. Let's go up," suggested Flius.

The young men clambered up. We heard the clash of hatchets and knives, and a rain of pieces of wood and stone came down.

We were hoisted up. Flius led the way through the great glass French windows. A burst of curiously dry air greeted us.

Liuwenhord looked around. "What's in the cabinets?" he asked.

"The results of the station's observations on weather, meteorological phenomena and terrestrial electricity." Flius hurried on. He turned to the right. We entered a hallway that was altogether dark. Our companions turned on small electric lanterns. Flius continued to storm on ahead of the rest. At the last door along the hallway, he hesitated for a moment, then finally opened it with a violent push. We found ourselves in a workshop filled with metal models. Tables covered with scientific apparatus were picked out by the fingers of light as they played along the walls. There was a writing table with a typewriter on it, and maps and charts, all rotted with age, lying beside it. The fingers of light searched farther and finally united on a little couch, one of those made of steel tubes. Upon it lay the remains of a coverlet and a sunken-in pillow in the midst of which something brown shone in the glare of the lamps. Flius glanced, then suddenly collapsed. We stepped nearer and saw in the ruins of the bed, clad in what had once been a white linen garment, the mummified remains of a woman. The head resembled that of an owl, and from it sprang chestnut-brown hair, well preserved.

Flius, supported between two of the Atlanteans, stared straight before him, repeating, "And so I find you again, Maria! So—"

Hurst, always sympathetic, could not withhold his tears. He stepped to the writing table and, to have something to do, pulled the drawer open. I stepped over beside him, feeling not quite master of my own feelings, and without any special reason, took out the sheets of paper. They were the documentary papers of our government, well preserved, but the writing on them was hardly legible. Hurst lifted up one sheet and held the lamp behind it; the sharp pressure of the type had driven in far enough so that it could be read, and we read aloud:

"Today will be the end. I hope for freedom. I only hope that someone may find these sheets."

"What does that mean?" asked Liuwenhord.

Hurst, who was holding the other sheets up to the light, did not answer, but passed one after another across it, and then laid them down suddenly.

"Salvation!" he cried, "the last struggle of the station. This woman was a heroine!"

CHAPTER XIV

The Diary of the Mummy

● We spent a sleepless night. Flius had a fever and needed all our attention. Early in the morning we went to work again to see what we could find. By the afternoon of the next day, Hurst was able to inform us that he had discovered well-preserved atom-destruction machines.

Liuwenhord ordered a special report to be sent out of these finds. Part of them were packed up to be taken back to the other station; the rest remained where they were.

"We can use all the material here," decided Liuwenhord, "and I think that it would be a good idea to reëstablish a power depot right on this spot."

Meanwhile, Hurst had occupied himself with going over the documents left by Maria Langeland-Hochklofer. But in spite of all our questions, he would not

tell us what they contained. "Later," he would say, "you will hear the tale of the earth's last struggle. If I read it off now, the effect on Flius might be fatal." Both Liuwenhord and Thankmar agreed.

One of the heavy high-speed airplanes of our time was unearthed, and Hurst was delighted with the huge motors. But Thankmar said its use would be limited as it would be difficult to obtain fuel for it.

"Have you no coal, then?" asked Flius.

Thankmar nodded. The chemist answered. "Why, it will be easy enough for us to make it!"

But Liuwenhord said suddenly, "We will leave tonight for Boothia Felix."

The giant airplane rushed through the skies. Beneath us we saw the ice pack, the northern deserts through which men had wandered in the old days with dogs and dog-sleds. And as we looked, we felt the heroism of those old explorers of the Arctic; Johannsen, Peary, Amundsen.

"Now we are right over the pole," called the navigator.

Liuwenhord removed his cap and we imitated him, in honor of those old leaders who had tried to reach the ideal-point of mankind.

We circled down over a little lake in the midst of the ice. Felt hoods were handed to us and fur coats. A motor boat was waiting for us that took us aboard and soundlessly conducted us down a lane of ice into what seemed to be an ice-walled grotto. "Glass," explained Thankmar, who was leading the way. It was the beginning of a tunnel that led straight into the mountain.

We entered a gallery, mounted by means of a kind of inclined railroad, and then turned downward to an enormous depth. The tunnel opened out and we saw walls along which lighted windows shone. Another train like our own came down a parallel track in our direction and a shout of joy rang out. Liuwenhord looked serious. "They don't know yet," he said to one of our companions. The other answered something and we speeded up, traveled for about an hour, and finally came to rest in a little hall lined with metal. We dismounted, were greeted, and led upwards somewhere, becoming separated in the process. Thankmar guided Judith and me into a kind of dwelling consisting of four rooms and showed us how to obtain, with the turning of a button, fresh air, warm air, hot water, and cold water. A signal button for service had a card over it in our own language; beneath it was a series of buttons, each of them calling for something different. It was altogether like the system in the great hotels of our own day. But the furnishing of the rooms was particularly comfortable and quieting. The furniture was of our own time, or else reproductions of that period. It felt both queer and good to be in a room that was altogether like the rooms of our memory.

Judith thanked him and busied herself with Urania who was tired and quite giddy after her long flight through the air.

We were alone at last, and for the first time since our awakening, had the feeling that we could really belong to each other. We sat down on the edge of the bed where the child had gone to sleep, and for a moment, found no words. It was Judith who finally broke the silence. "This is all a fairy tale, a dream." And in a moment, we were back in our thoughts again.

"What lies before me?" asked Judith, "and before you? Hurst and Flius have plenty to do, but you; where is your South America and the forests you made your life-work? And what about me? Where is the sociological center in which I was to work?"

But it was Liuwenhord who came to answer these questions. "The great Mother has been awaited by her people. And the warrior, who, for the first time, brought us any information about the Drusonian flying swarms, knows already what his duty will be—the destruction of the enemy!"

We both looked into Liuwenhord's deep eyes. Behind him stood a good-looking, dainty young girl, that for all her

mildness and whiteness resembled him as a young apple tree does an old one. "To help you with the child—my daughter, Irmfried," he announced.

We noticed that the girl held a robe in her arms. She spread it out on the divan and Liuwenhord explained. "The festal garment for the feast in the temple. We are to honor the great Mother who watches over the coming and going of the sun. Our world today is ruled by the women. And the leadership comes to you, as the woman who has passed through more than any of them, since you have borne in our time the child that was conceived in the time of the forefathers."

The subterranean temple was strange, its walls all hewn out of the rock of the earth itself. It was dusky there, with small lights on the upper walls, and in the ceiling others that represented the lights of the starry heavens, giving the sense of a mighty hall as large as the starred vault of night in the open air.

Clad like a priest, Liuwenhord came forward and stood in the center of the room, bathed in a stream of light. And while we waited on a little raised platform, he chanted:

"The sun turns
Round earth, to our seeming;
To our seeming—yet the earth serves the sun.
Out of the darkness of night comes the sun of light,
Looks on us once and again turns to night;
So turns and returns everything, you children of men,
Turns and returns and remains eternal.
Guard yourselves from evil thoughts,
Guard yourselves from evil deeds,
Guard yourselves from evil words,
For they are eternal.
We were free and now are un-free,
We were free and will be again.
A sign has been given unto us,
Across the bridge of the years.
The ancestors have come to us—
The great mother and her child
That was born in our time.
A sign that we will be free.
The stem from the race that was free,
That was free and lost its freedom,
And was reborn into our race,
That yet again shall be free."

And accompanied by a beam of light, he stepped slowly over to the dais where we stood. Suddenly the light broke all about us. Raised among us, Judith sat there in her white robe, blazing with gold and rubies, like a statue of a goddess, with the child on her knees. Around her shone the blue mantle of the light with a streak in it of the red of blood, of life, of love. A rushing sound was audible in the hall as all the people knelt and cried, "Bring thy children freedom, Great Mother!—Freedom!"

The pillar of light moved again. It came to rest on a great silver shield where the metallic corpses of the insect-swarm I had shot were placed, in their center the dead animal. And my face was like fire as Liuwenhord led me suddenly to the side of this prize and cried, "The Warrior! The conqueror who has been sent to us!"

I would have turned away, but Judith caught my eye and, with a glance, bade me stay. I felt as though my knees were made of wax and about to melt.

Then the darkness was suddenly about us again; we were led forth into a room around the edge of which sat a number of men and women on benches. In a few short words, Thankmar explained what he and his following had accomplished. For the first time, we heard the whole story of the expedition that led to our salvation. The old man was a good speaker; he told his story well and briefly.

Then Liuwenhord himself told the story of the finding of the great power machines and the other finds in the station of the forefathers and finally turned toward Hurst. He came forward and read the tale of the last struggle of humanity, written down in her diary by the brave woman whom we had found as a mummy:

* * *

May 24. Druso is coming nearer with great speed and has already attained seven-eighths of the size of the moon. News comes through on the gamma rays that it will cross the moon's orbit on the first of June, twelve hours after the moon. They ask that, at a given signal, all the

electric stations on the earth send forth kala vibration rays to counteract the belt of terrestrial magnetism. Scientific counsels. Debate as to whether the earth will take Druso as a new moon. Everybody happy. Three space-ships preparing to go out to welcome Druso. Cape Town station to be used for communication.

May 25. Much news. Delight on earth unsurpassed. New age of exploration into space begins. Perhaps possible to release the moon from earthly attraction with Druso's help and use it as an enormous space-ship. Head Engineer Heik in conference in Washington on the question, "Can the moon be set into rapid rotation?"

A good deal of weather damage on the earth. Heavy storms. We observe them in the form of whirlpools in the Arctic sea. Floods everywhere. Even the Mediterranean has fifteen-foot floods. Navigation of the North Sea impossible. Land seems to be rising. New islands appearing near the Azores. Airship service uncertain.

Everybody happy here. Golden future opening. Hochklofer, my big child, dreams of climbing the mountains of Druso. He came back recently and is to make the trip there on Space-Ship II. I am lucky to be able to keep him here even for a few days more.

May 26. Heavy electrical storms and some damage. Lives lost in the islands. Everybody leaving the South Sea islands. The state will pay for all damages.

May 28. Farewell to Franzl.

June 1. Druso has attained moon's size. All the electric stations on the earth vibrate. Power streams constantly going forth. We are waiting. The space-ships leave.

June 3. We woke early today with headaches. What is happening? Communication with other stations impossible. Airplanes will not fly. No electrical power. We are cut off. What catastrophe is this? We wait.

June 4. We wait. It is curious to see red Druso when the moon sets. The whole world is silent. Nothing in the air. We wait.

June 12. The temperature has gone down sharply. We have set the little atomic destruction machines going with the aid of solar-energy storage batteries. Korbe has to care for all of us. The old sea-ship *Kenyon* has been cleared and small energy-motors installed. Hustermann will take her to Tromsoe for news.

June 13, very early. Hustermann is back. Saw heliographic signals asking help from Sounding Rock. Found Space-Ship II near Kola, smashed up. Franzl is safe, with five others. We have news. Druso has made an attack on the earth. Don't know its extent or exact means yet. Franzl has gone out on skis to establish heliographic communication. We are working on high-power televisors. Electrical power came back briefly two or three times.

June 24. News. Planetary government announces from Geneva. Alteration in government. Planet Druso to rule in future. Useless to resist. All must give in. Druso caused temperature at equator to sink thirty degrees. Any defense utterly impossible; all food supplies on earth under Druso's control. All power stations must be abandoned. We have cut off relations with Geneva. The prophet Ferryman is arrested for preaching opposition.

We are much shaken, but we doubt what the news broadcasts give us. Likely exaggerated. The electrical power is coming back. Temperature mounting. Televisors in operation. Turned on Cape Town. Trees, forests, torn up. Animals dying. Cape Town in ruins. People flying through the streets. Gigantic insects flying all over the continent. Clumsy-looking space-ships above them. Nice things Druso is sending us. Franzl strong against submission. "We can beat them yet!" he says. "Don't forget the deep mines going down 3,300 feet in the iridium production department." Down there we're building two atomic destruction machines. Eruption greater than a volcano will follow. Convulsion to alter location of earth's center with resulting al-

teration in terrestrial magnetism and electricity. Might do the trick.

June 25. The men work. We observe Druso. The insect flying-swarms are cruising over the earth, but avoid the cold regions at north and south. We avoid everything that might call attention to us. Answer sent to Geneva—"Station destroyed by tidal wave; leaving for south."

July 1. I wake up. Terrific shock; I can hardly move yet. Atomic destruction machine B must have gone off in the depths. I am the only one left alive. The frightful crater has swallowed everything. I think Franzl would have succeeded if he had been able to build both machines. Through televisor I observe return of all Drusonians to Cape Town. They are destroying all big buildings and power stations. An exploration flight is coming in this direction. I hid and watched how they cruised over the hole in the ground. They went away.

It has become very cold. I am exhausted with waiting and sorrow. The televisor shows me pictures of people driven together in herds by the flying insects. From Cape Town space-ships are taking captured women and children to Druso. For slaves?

No stations now answer S.O.S. call. The earth is lost; mankind is as helpless as a worm beneath a foot.

July 3. Hope. I turned the televisor to the north and at last succeeded in finding what I had looked for. The north polar electrical station is not destroyed. A proof that the Drusonians do not go into the high latitudes. I see men at work there, on skis, with small machines and sail-planes bringing more men. I see that there may be help from there. Oh, spirit of the earth, send us salvation from the north!

July 4. I try to get into communication with Boothia Felix. Impossible. They must know that machines are here. I can't move them. I alone. I will send them messages every day at noon, when they take in the moon news broadcasts . . . .

* * *

This was the last line the book held. In at least one place, mankind had tried to make a resistance, but our general planetary government must have found itself altogether helpless. From the script, it was evident that the Drusonians had conquered mankind with the help of mankind itself. The natural protective zone of the heavyside layer that guards the planet with rings of electrical force had been opened by mankind itself, like the door of a fortress.

I stood up and asked, "Have the Drusonians ever flown over this place?" I was told that the Drusonian guard squadrons had never flown over the northern ice. From time to time, the Drusonians had sent heavy space-ships that made observation flights at a great height. But the approach of these expeditions was signaled through vibration-reception machines, and care was taken that when they arrived, there was nothing for them to see. Once, a hundred years before, they seemed to have gathered some hint of the existence of the station and made a great effort to destroy it. As Liuwenhord told us, the attempt had ended in failure. The marks left by it were still visible. They had dropped an enormous quantity of chemicals, but the Drusonians had probably not reckoned on the fact that the cold hindered their action and made them useless at the depth at which the Boothia Felix colony was placed.

It was clear that the best protection of the part of mankind that still remained free was the cold, that ancient enemy of mankind.

CHAPTER XV

Plans for Revolt

● When we came to know the subterranean state of Atlanta better, we were astonished to find how supportable the cleverness of these people had made this prisoner-life in the depths. Willing imprisonment with occasional parole, Judith called it. Above all, a constant stream of fresh, bacteria-free polar air was constantly at hand. The means of heating were perfectly adequate, but space and movement were, in a sense, rationed out.

To keep down the constant desire for light, irradiation rooms had been supplied with sources of ultra-violet light, and in them people came to meet each other, get their daily supply of light, and hear the news broadcasts. The art of using the televisor had been lost. Hurst was busy setting up and getting into operation the great machines we had found at Karaga, and at the same time, smaller ones, on the style of our hand televisors, were being built.

The work hours in Atlanta were strictly regulated as well as the play hours outside in the ice. And everything had to be done with the greatest care, for if one of the space-ships of the Drusonians located the colony at Boothia Felix, everything was lost.

Judith, who was a good observer, explained to me. "It was an inevitable social consequence of the old wars that the ideas of the victors were always accepted by the conquered. Look at these last remaining men objectively for a moment. Are they not living an insect-like life?"

And as a matter of fact, everyone had some life function in this colony with which he or she was inescapably connected. The soldier remained a soldier, the hand-worker was kept at his hand work. It was the same with the housekeepers. The life here in the darkness placed more strains and demands on them than the life in the open air. But everything was under the rule of the women, and at the same time their highest duty was to produce as many children as possible. When a woman became a mother, she became also the ruler of a section of houses. She was looked upon as something holy. Everything regarding the social or political life was under the control of the Council of Mothers. Liuwenhord's leadership rested strictly on the fact that he had won over the women to his views.

Judith remarked to him that it must have been unpleasant for the previous Great Mother when her place was taken by a newcomer. He replied: "It was a blessing for us that, just at the time we found you, the Priest Mother who preceded you expired. The choice of a new queen always leads to long doubts and controversies. We are happy to have you, and have been spared at least ten years of dissensions."

When we studied the resources of the colony, which we found contained about 350,000 people, we discovered that their reserves of power were really extraordinary. This was due to the fact that the huge generators and working machines that had been already built under the earth in our time—to protect them from the cold of the magnetic pole at Boothia Felix—could be set in operation with very little labor. By means of his televisor, Hurst studied the parallel machines at the south polar station and announced that they were in an almost equally perfect state. The Drusonians, in the first years of the conquest of the earth, had observed the place, but in their dislike of the cold, had contented themselves with making occasional inspection trips over the place. Since the men did not appear or take any steps, they seemed to have reached the conclusion that they were unable to do so. They made, it appeared, regular inspection trips over both poles, but these had been observed and took place at predictable times. Naturally, we had to reckon also with special and irregular inspection trips, but all preparations were made for such cases.

But the great benefits mankind had derived through being thus hidden had only become known in the last hundred years and were made certain by the investigation of the Drusonian flyer I had shot. It had been noticed that the Drusonian air activity was strictly limited when there were blue clouds in the sky or at the hour of twilight. From observations made on Druso by the Atlantean spies, it was established that the light there had a reddish-yellow tinge. The Oracles spoke also of the "Color of Corruption" and "the Night of Eternity." That could only refer to the blue color of the heavens, and when the optical men among the Atlanteans had examined the visual organs of my flyer, they established the fact that blue was invisible to it.

The fact was extremely interesting, since we knew already that, for mankind itself, blue and violet had only come into the spectrum comparatively recently, and that 2,000 years before Christ, the Mediterranean races likewise had been unable to see blue, although they were able to dip farther into the red end of the spectrum.

I deduced from that that since the Drusonians lived in an atmosphere constantly flooded with red light, they were unable to see any blue at all. Liuwenhord agreed with me. Blue had already been adopted by the Atlanteans as a holy color, in a manner almost instinctive. They saw the son of the heavens emerge each year in a blue garment, and blue was the secret sign the Atlantean spies used while among other men. Whoever went out into the world had a little blue spot tattooed under one ear as a sign that he belonged to Atlanta.

Hurst, always restless with the desire for adventure, said, "Blue is the color with which the conquering race will overcome Druso." And he ordered blue war and hunting uniforms to be made. "Why should our people avoid the fresh air?" he inquired. "Let our men who go hunting in the ice dress in blue."

As a matter of fact, one of the blue-clad hunting parties went out to Baffin's Bay a little later, where it was surprised by a Drusonian inspection-flyer. They reported that they had evidently remained unseen, for the flyer passed over them without paying the slightest attention.

This piece of knowledge served us well in training the young men for the war of liberation. We crossed the ice fields from Boothia Felix to Spitzbergen through the air, and from thence went southward on skis. At Spitzbergen, the old coal mines were located and opened up again. A colony of hunters was established there to ward off wandering parties of Eskimos. We needed for some time yet to bring the troublesome oil products to Boothia Felix by air, since we had to avoid for the time being the use of the atomic destruction power machines. It took an immense amount of power to start them and the collected energy of the earth was being tapped by the Drusonians to such an extent that we, in a sense, lived on the crumbs that fell from their table. It was plenty for a state that did not number half a million people, but hardly enough for our purpose of breaking the bonds that held Druso and the earth together.

● On one of my hunting trips southwards, we met some Mongolian nomads. They warned me not to go farther westward. There was enchantment in that direction. That could only mean that the old power station at Karaga still lingered in the memory of living men. "Witches! Enchantments! Bar men!" This much I understood of their warnings.

I stayed among these simple people for three days. They were sad and depressed. One of our people, who had followed my train, found me with them. As he knew a little of the Mongolian dialect, he succeeded in getting out of them something about what was worrying them, and informed me that they must sacrifice a child, their eldest son, to the Oracle.

"What does that mean?" I asked.

"The Drusonians lay taxes on mankind," they explained to me. "Children, expectant mothers, and especially strong young people of both sexes are laid before the altars and vanish. We do not know where. It seems that they must be taken off to Druso itself."

So the power of the Drusonians reached even into these desolate regions. But why did they want these sacrifices? —as a proof of their strength or for some darker purpose?

This tiny event stirred me deeply; I could not forget the weeping mother in the tent, the poor man, numbed by the blow of fate, gathering his other children about him. It seemed to me a sacred duty to end this kind of thing. When I got back to Boothia Felix, I had a conference with Hurst. He said to me, with the quiet smile so characteristic of him, "I think that we are far enough along to be able to equip an anti-Druso patrol."

Six months later we had made considerable progress. Hurst was holding regular councils, to at least act out the work of freeing the earth in theory. The use of blue would be a considerable help to us, like armor against our enemies. We were also masters of the Drusonians through the televisor and its sound accompaniment, devices which they evidently did not know about or our colony would long since have been discovered. They ruled the earth, since mankind believed in them as gods, and even in war dared not think of destroying one of the Oracles. They lay over all the life of the earth like an invisible upper crust, keeping up communication with Druso itself, but not very frequently. Atlanteans who had reached that planet gave us some information about them, but very little on the subject of their resources and machines. The theory that they were a form of life that had reached a stage of decadence and degeneration in which they did hardly anything for themselves seemed to have considerable truth in it. Both from this and from our other knowledge, we reached the conclusion that the best means of accomplishing the task of freeing the world was to break the connection between their planet and the earth.

A plan for bringing this about had been under consideration by the Atlantean astronomers for some time. To carry it out required the use of the earth's entire electrical force, exerted in great shearing, longitudinal waves, to cut the invisible bonds that held Druso to the earth as a tug is held to some great steamer.

Flius' alteration of this plan called for the sudden freeing of a vast amount of power through atomic destruction, and its application to produce a slight halting in the rotation of the earth, a backward push against the rotating mass of the planet itself. This would produce a kind of congestion, a whirlpool in space, in which both Druso and the moon would be involved. If, at the same moment, the great power station at Cape Town, in which the invisible electro-magnetic cables between Druso and the earth were anchored, were destroyed, the parasite's planet, according to his reckoning, would be shaken loose, at least for a short time. And if this occurred for so much as a moment, the sheath of electro-magnetic forces which formerly encircled the earth and which Druso had been unable to penetrate without the help of the earth's own inhabitants, would resume its place.

The state of affairs at the South African station was easy enough to discover now that the large-sized televisors had been set up. Hurst worked day and night, observing, sketching, and photographing. "At every station of such a size," he explained, "there must be some emergency apparatus. We must spare no labor in locating it and making sure that we cut off all possibility of the restoration of this pump of energy that is draining the earth."

Afterward he examined with the same care all the details of the South Polar power station of our own days, where it still lay in Amundsen Land. Since he himself had been one of the leading engineers of the world, he knew all the things to look for and the most likely places to find them. Finally, he trained workers and sent them out to Amundsen Land. Already the Atlanteans had the custom of sending out small groups every three years, who lived there "in banishment," as they called it, for the establishments at the South Pole were of an emergency character and contained none of the amenities of city life like those in the north. Eight hundred people were kept busy there, but things were altogether changed now that they had the televisor and its sound accompaniment, for they were now able to keep in perfect touch with the remainder of the Atlanteans.

As the preparations for freeing the earth advanced, Hurst undertook the task of training the whole staff of the power stations in the tasks they must perform to cut the Drusonian station off from the use of the terrestrial electricity at a given moment. That would be the first blow; hard on it was to follow the annihilation of the power station with atomic destruction fragmentation bombs.

The following steps were to be the destruction of all Oracles and the elimination of the smaller Drusonian power stations, while Flius had charge of the great task of inducing the pause in the earth's rotation.

We all worked together on this plan, Hurst particularly displaying a quality of intellect that even I had not known he possessed. He worked out all the details for the construction of an atomic destruction power machine that should limit the halt in the planet's rotation to the absolutely irreducible minimum. According to his reckoning, the process would require seventeen astronomical minutes, but, of course, the great difficulty was to be certain that the world would continue its customary rotation afterward. He reckoned the thing out so that the great shock would hardly be felt at the poles. Of course, one could count on a tremendous amount of destruction in between; in fact, some of the Atlantean scientists were doubtful whether the freeing of the earth from Druso would not also involve the destruction of all organized life upon it. There would be tremendous landslips and earthquakes, tidal waves and a storm beside which the mightiest hurricanes and typhoons the earth had ever seen would be nothing but the splashing of a child in a bathtub. Hurst made his calculations by the hour and dipped into all kinds of experiments on rotating bodies, finally reaching the conclusion that its subterranean position would be a protection to the city of the Atlanteans rather than a danger.

Another question was whether it would not be possible merely to destroy the anchor-station at Cape Town and turn extraterrestrial electricity against Druso. But Hurst insisted that the only way to solve this problem was to go over to Druso and make researches on the enemy planet itself.

But that seemed a complete impossibility.

Nevertheless, Hurst was not a person to be contented with the word "impossible." He went personally out to St. Helena and from there in a submarine to Cape Town to study everything from the closest possible approach and see whether he could obtain any information as to the means the Drusonians were employing to draw off the terrestrial electrical power for their own use.

We others went on with our work at Boothia Felix, every day beginning new labors and new problems. It was a stirring, uneasy life we led.

CHAPTER XVI

Among the Sacrifices

● Urania, our little girl, was now almost two years old. Her wide blue eyes gazed out at us from a fresh little face. She did not seem anxious to learn to talk, but rather tried to express herself with movements of her little hands and in a kind of sign language she invented for herself. But words had an extraordinary effect upon her and she showed us by her movements that she understood everything that was going on around her. During the festivals in the temple, she was very quiet, turning her head attentively in all directions, and this seemed to increase the secret charm Judith had for these Atlanteans. But in spite of all the care we could give her, her health did not seem of the best. Thankmar, who examined the baby carefully, advised, "The living conditions here are too hard for this young organism. It is a miracle that she remained alive in her mother's womb during the wait of three hundred years. The fruit is often tougher than the parent organism. But the parent organism in this case was used to different living conditions, more light, sun, and open air, and this is now having its effect. Our children here are born into conditions to which their parents had become habituated, but this child is not finding the right surroundings from which to draw strength and health."

Judith herself longed to see the sun, light, and the open sea. Liuwenhord, who saw in her and the baby the symbolic protectors of mankind, was worried about

both of them. "The baby must be brought back to the best of health," he declared. "We must take the chance."

After considerable discussion, the decision was reached to send mother and child to St. Jean, a little bay on the former Gulf of Nice. The Atlanteans had had a station here for some time. They could go there by sailing ships up the Rhine. The old canal which united the Rhine and Rhone was still in such shape that it could be used. Following this route, they reached the Rhone, then went down past the Camargo Islands to the sea and eastward to St. Jean. Here the seafarers sold goods from the north in exchange for those that were brought across the Mediterranean from Africa. In the neighborhood itself, they passed for northerners from Denmark.

I had thought of going with them to St. Jean, but Liuwenhord, though not altogether against it, nevertheless said, "Who would take over your work here among us?" And Judith, who agreed with him, added, "Flius can come with us. He is as much in need of the sun and the blue southern sea as we are. It will also help in his work. Irmfried will help me care for the baby, and you can always see and hear us through the televisor. I'll take a small wave-hearer with me, so that we can hear everything that goes on in Boothia Felix."

She was right; a full televisor equipment installed there could very easily have betrayed us. The wave-speaker was a tiny thing which the natives of St. Jean would hardly notice, and which did not offer the possibilities of betrayal.

And so we parted. I accompanied them by airplane as far as Kola Bay. From that point, I went on to the Karaga station. The work there was going forward quietly and efficiently with the great machines that had been left.

Hurst was back from his inspection trip to South Africa. Days and weeks he worked with his staff of young helpers to draw the fullest possible results from the knowledge acquired on the trip. When he had finished, he asked Liuwenhord to convoke a sitting of the council, and decisively as always began to expound.

"We have learned a great deal. I can now declare with confidence that thirty per cent of the radio-electric energy of the earth is being expended on the task of maintaining Druso in its present position. Druso lies at the end of a cable made up of electrical power. Obviously, if we manage to cut this cable, Druso must let go and fly from the earth, or it will very likely smash into the moon. What would follow for us is something exceedingly serious to consider. There would certainly be an enormous movement of the seas that might even reach the poles with the most terrible consequences. However, I do not believe that the Drusonians would yield to the temptation to commit suicide in the hope of destroying us also. The Drusonians have evidently drawn greater practical results from the Einstein formula $E=mc^2$ than we have. We have used this formula for atomic destruction purposes and E is the energy set free when the mass of the atom destroyed is brought into relation with the velocity of light, *c*. I believe that the Drusonians have directed their researches into the velocity of light and with the help of the same formula have succeeded in so balancing the mass and energy of their own planet that they can alter its movement with relation to other masses — that is, with relation to other planets. We know that by placing heavy weights on one side of a ship, you can get it to change its course. The Drusonians have accomplished something like this with their whole planet. Light vibrations are used for their movements; they use the light vibrations in space as a sailing ship uses the wind, meanwhile using mass as the rudder that places the ship in a position to make the best use of the wind. I have arrived at the point where I have in sight the formulas necessary for their movement in space, but have laid it aside as it does not contribute directly to the problem before us, which is that of the freeing of the earth from Druso. For this purpose, the most obvious and necessary step is to cut loose the cable of terrestrial

electricity that binds the two planets together. The result, at least in the beginning, would be much the same as that which follows when a cable connecting a tug with its tow is cut; that is, the tug leaps forward under the impetus of its own power. If the Drusonians employ some means, now unknown to us, to make the connection again, we have, as a last resource, the atomic destruction machines and the project of shaking them loose with a change in the earth's rotation. That would give a final and decisive shock."

There was a hum of agreement and Thankmar expressed the feeling of those present, "Better free on a destroyed earth than slaves on a comfortable one."

● Hurst developed his ideas. "It seems to me that the following steps are indicated by the necessities of the position. At a given moment, all the electrical power plants at Boothia Felix and the South Polar station must be set in operation. By this means alone, in the long run, the thing could be accomplished, as they would absorb so much of the terrestrial electricity as to make it impossible to maintain the bonds between the planets. But it is too slow alone. When the electrical cable begins to fray out under this influence, we must immediately proceed to the destruction of the Drusonian power plant through explosives. We must build an atomic destroyer there that will release so much electro-magnetic power that the works will be burned out. There are old galleries in the Table Mountain that we can get into and use for the purpose. The mountain will undoubtedly blow up and the power plant be torn to pieces and buried, the emergency plant as well as the regular one. I believe that this will accomplish the result of causing Druso to drift away from us. We can hasten the process by using all the electrical energy we have to send out longitudinal waves. They will act as buffers against the electrical power of the robber planet.

"Meanwhile," continued Hurst, "we can do some research into the question of space-ships. The Drusonians have very good ones. We did some investigation on the question, making use of the fact that the Drusonians are blind to blue. They do not maintain any close watch of their space-ship docks, since the whole place is protected with a system of electric wires that give off sparks when anything comes nearer than fifteen feet. I got by because I succeeded in isolating and insulating myself. We measured the strength of the current there; it consists of 900 volts, thus being dangerous if not deadly. As far as I could observe, the space-ship travels with great speed and steadiness and without vibration. During the trip, most of the people in it appear to be asleep. It seems that they are given injections at the Cape Town space-ship field before getting into the ship, so that when they actually go aboard, they have the appearance of somnambulists or persons under hypnotic influence. Once on board, they are counted and then confined in wire berths, like cages, where they sleep during the trip.

"It is interesting to note that there are heavy metal shoes on board which are given to the human passengers when they leave the ship, as our Atlantean spies have informed us. These are apparently necessary to counteract, at least temporarily, the lessened gravitation of Druso, although it appears that the electro-chemical adaptation of the body to this lessened gravity takes place very quickly.

"The crews of the space-ships are provided with special navigating apparatus, not unlike that furnished to our space-ship people of the old time. I have been able to observe these machines, and it would be easy enough to duplicate them. They enable the crew to perform their tasks. I believe that the Drusonians make great use of the muscular strength of such men as arrive from the earth; a strength, which, in the first few weeks, must be enormous for Druso.

"We have succeeded in combining a good many observations from different sources with our own researches to give us much new light on Druso and its inhabitants. It seems extremely likely that the Drusonians belong to a race which

does not reproduce in great numbers and is not in any case very numerous. There must have been alterations on their planet that have entirely changed their natural conditions of life. They seem to be the remains of a highly intelligent race of beings that found itself on the verge of destruction and could only maintain itself by capturing some other planet. Three different types of Drusonians have thus far been recognized; the flying beetle-like fighters, the giant ants, and a third kind, found in the Oracles, and which live in their crystal tubes, almost like pure brains. Naturally, it is entirely possible that there are several other types on the star itself."

Following Hurst, various specialists who had investigated the other aspects of Drusonian life spoke. They told everything that was known of these beings' methods of reckoning time, of their dispositions for work and war. The whole council occupied as much as a week.

It was in the seventh day, during the afternoon, when we were in the middle of a particularly interesting exposition, that a loud-speaker suddenly spoke. Liuwenhord was called. We saw him come back, looking worried. He stepped to the platform and announced, "This Council must be postponed. The daughter of the Great Mother is lost."

I felt as though I had suddenly fallen into a great depth. I was like a person who has been struck a sudden blow, unable to take part in the things that concern him. Only by the fact that I seemed altogether numbed by the shock can I explain how I lived through this most frightful day of my existence.

As from behind a curtain, I heard Liuwenhord's voice. "Irmfried explains it to me as follows: Two days ago there was trouble in St. Jean. The Oracle demanded that three strong men of twenty-four years of age, four mothers with their children, and three maidens who have not yet had children, as well as three pretty children of the female sex, should be offered as sacrifices before the Oracle. As luck would have it, there happened to be a great festival in the island that day with songs, wine, and processions to the Drusogods. On account of the uproar, Judith, Irmfried, and Flius got away from the tribe and climbed a mountain to a spot where the remains of an old monastery stood. The child was asleep beneath an olive tree. Flius was looking over the remains of the old mural paintings, the women picking wild roses. When they returned, the child was gone. The traces led to one of the mountain huts that are on St. Jean, but they found nothing there. The door was partly shut, but there was nobody to be seen. Judith and Flius followed the trail; Irmfried got in touch with me at once. She believes that the woman in this hut, afraid of losing her own child, has stolen the foreign child to give it as a sacrifice to the gods. It is clear that, for the moment, nothing can be done."

"But something must be done!" I cried.

Liuwenhord nodded. "We will send out a submarine at once."

"I will go with it myself," I heard my own voice saying, as though it belonged to someone else.

"Agreed," said Liuwenhord. "It is an undertaking that concerns the highest interests of the state. Therefore, I declare that in this case martial law rules, and place the affair under control of the military authorities."

● Thankmar hastened out to see to the installation of televisors. A moment later, Irmfried was in communication with us again. She gave the geographic bearings on the map. We located the point of the misfortune, on a height between a range of tall conifers. Sighting the televisor down the hill, we found the town of St. Jean and saw the black-bearded natives gesticulating as they talked with Flius and Judith, and our translators told us they were refusing to give up the child.

The finder was turned on Monte Carlo, but among the little huts on the rocks there was nothing to be found.

The blond-bearded man who had been Thankmar's assistant on the trip to find us appeared with maps and time-tables.

He announced: "In three days, the sacrifice to the Oracle in Monaco will take place." He turned the televisor on the spot and we saw a tall, weatherworn building on a height. I recognized the deep-sea research institute that had been established long ago by the old princes of Monaco. The huge stone building had resisted the attack of the years. It was a place that seemed destined for sacrifices; the Drusonians knew very well how to make use of dramatic locations. We looked into the hall and found the altar hanging over the water in the part of the building that projected out there. From that point, the sacrifices were wont to vanish into some kind of seagoing vessel. The young man explained it. "They are taken away from here and sent over to Villefranche. There lies the big Drusonian ship that carries them to Cape Town."

I suggested: "Isn't that a good place to fall on the ship and get the child away from them?"

Liuwenhord shook his head. "That would draw the attention of the Drusonians and imperil the whole work of freeing the earth."

"But if they throw the child into the sea?" I asked.

Liuwenhord looked at me. "Will you undertake it yourself?"

"Yes. We can blow up the ship and I can fish the child out."

He shook his head. "You can't make it. There isn't time."

But my decision was made. In this moment, when I was in the truest sense of the word beyond myself, I developed plans like a man who is driven by a mania. I wanted to get in touch with Judith. She was a swimmer; she might be able to make it.

Meanwhile, Thankmar, Liuwenhord, and the blond man made their calculations. "There is a bare possibility," they announced, "that we can make an effort to get her at Cape Town itself." That was their last word.

I turned to Hurst. He did not lift his head from his mathematical formulas, but showed his inner excitement in the movement of his shoulders and in the pulsing of the veins of his neck. He said grimly, "Don't ask me to stop now, my friend; time is everything. The only hope I see is in tearing Druso loose. Liuwenhord is right. If we attempt piracy on their ship, it will stir the Drusonians to search us out, and then if they find us still unprepared, woe to us!" And he murmured, bending over his papers, "The greatest aid a scientific thinker has is time, which in itself clarifies problems. But to hurry on things now is as though some one whipped the thinker, urging him to think faster."

I left him. I hurried to the televisor. Judith was speaking, and the sound of her voice was like a cool drink in a desert. "My child! Our child! She will be sent into slavery. I must save her or die in the attempt!"

I spoke with her about the possibility of getting the child when she left the place of the Oracle in the boat for Villefranche. Judith answered, "By all means. I will try. What does it matter what happens to me? I want the child and nothing else."

Her plan was simple. One of the fishing vessels should be equipped with a small motor which would give it speed enough for the purpose. She herself would be provided with a swimming-harness that would hold the child out of the water, and placing herself at the point where the sacrifices were being loaded into the ship, would call the child to jump into the water. If she could then reach the fishing boat, the game would be won. The only bad feature was that I would be clear around the other side of Spain in the submarine at the time.

It was a frightful day for me. Only the preparations necessary to the trip and the equal necessity of inspecting the crew kept me together. Finally our submarine was at sea. At first, our run was through waters where we did not need to dive; it was only off the coast of Ireland that we had to go under water for the first time and wait in the little, trembling, pulsing compartment of the ship. We were off

the Bay of Biscay when we came to the surface again, on the night of the sacrifice day. Televisors were turned in the direction of Monaco. We made out the lonely dark building of the Oracle and the inhabitants of the place, who were approaching with fagots in their hands to celebrate the festival. They went up the stairs of the great entrance hall, went through the galleries of the old aquarium, and entered the outer room. It was like a ghost-picture. Anyone who has used the televisor knows that walls standing in its path have the appearance of glass, while the object on which it is focused alone appears sharp and clear, picked out by the optico-electrical pincers.

Thus, glassy for us was the great metallic shell into which the sacrifices of the district, to the number of three hundred persons, were being loaded. Everything else around them was shown as in a glass, darkly. Blue fires blazed out; the priests passed wine around; flowers were thrown to the sacrifices. We heard the voices of the priests saying, "You are destined to bring blessings upon humanity." Then the shell sank down into the great, wide, stone-built grotto, a hundred and twenty feet beneath the foundations of the buildings, into which the sea reached. The shell of the sacrifices began to rock and to spin. This was done evidently with the object of making them dizzy so that they could be loaded into the boat like bundles. This was a big lighter-like affair, some hundred and fifty feet long and a third as wide. The people were packed closely together on the after deck. We could not make out the separate faces; the light was bad and the movement continual. The boat started out as we followed it with the finder. I was aware that something towed behind it, pulling slowly up to it. Was it Judith? My ears seemed about to burst; my heart beat wildly. Suddenly there was a movement; had Judith located the child and called to her? Then there was something as though a body fell into the water. I breathed again. "Brave Judith!" I said to myself. The dark mass of the boat ploughed on; there was nothing to be seen. I stood, watching, and gripping one hand with another. Finally the radiophone called and I heard Flius' voice. "Judith and the child have been picked up by a trawler and are on their way to Villefranche," he said. In the dark, we could not find Flius' boat, in spite of the most careful search, and the trawler that had picked up Judith and the child was undiscoverable.

I plunged deeper into the abyss of pain. What was the whole earth for me without Judith and the baby? And then the answer came quickly—the whole earth depended upon Judith and the baby.

CHAPTER XVII

The Drusonian Port

● On the next morning, our submarine was wide off the coast of Spain. We hurried on to get past the cape, farther southward. The televisor was directed on the little square bay of Villefranche, but the northwest corner, where lay the object of our search, was seen with difficulty through the cloudy glass of the intervening headland. I had become cold and clear-headed, a man who had cut himself off from life, who only lived in order to attain one object; to save Judith and the baby.

Luck was with us this morning. The great, clumsy skimming-ship lay in the neck of the bay, and on the afterdeck, protected by a twelve-foot rail, were the people destined for the sacrifice to Druso. The crew moved along them, dark-skinned men, but we could not glimpse a single Drusonian. The black men were treating the sacrifices well; among them there was a happy, carefree buzz of talk. Over at one side we picked out Judith, clad only in her bathing suit, sitting on the deck. Beside her stood Urania with one little arm around her neck; at her side was a foreign girl. Through the radiophone, we made out that Judith was talking with the girl in the Romanish dialect of the Mediterranean. We could hear her complaining that her child would be taken from her, but the other girl answered, "Now, listen, since you have been al-

lowed to accompany us by the special order of the ship's Oracle, you can be perfectly at rest. The future holds nothing but good for us."

One of the Negro women came with a long white garment, such as the other women on the boat were wearing. Judith retired, drew on the robe, and sat down at one side with the baby. She began to sing to it in her Swedish mother-tongue, as though she were singing some slumber-song:

"Sleep my baby, sleep!
Your mother is raveling a line of wool—sleep, baby, sleep.
The wool will trail out into the sea—sleep, baby, sleep.
And bring back something soon to me—sleep, baby, sleep.
For I am here as a guest alone—sleep, baby, sleep.
I must explain what's going on—sleep, baby, sleep.
I hope the radiophone hears."

We got in touch with Flius at once and told him to watch for the woolen thread. Fortunately, Flius had a light roll of flexible wire in his workbox and promised to get a radiophone to Judith with the aid of it and the thread of wool if it were at all possible. Then we turned our attention back to mother and child. Still in the same slumber-song Judith informed us that the ship would leave on the following morning. When she had been picked out of the water, she had been taken into the cabin. There she was brought before a crystal cylinder about six feet high from which issued twelve pairs of observant eyes, fixed on stalks, like those of a lobster. A priest had questioned her. She had told the story of the stealing of the child quite frankly and truthfully. Thereupon the priest had told her that the gods had given her the great privilege of receiving her sacrifice. She informed us that the Oracle on the ship was in constant communication with the Drusonian capital at Cape Town and finished with, "You must not attack the ship. Cape Town is the first point where you can attempt anything."

During the night, Flius swam out and managed to find the woolen thread. He attached the end of the wire to it; Judith pulled it in, and when a jerk on it informed him that she had reached the wire, he attached a radiophone. Now we could really talk to her. She said, "Up to now, everything is all right. A priestly doctor just looked me over, and I felt as though I were being handled like a brood cow. I have observed that some of the women here have been persuaded by the priests to squeeze out their milk into vessels which the priests thereupon took into the inner part of their ship. It seems to me that the peculiar being in the Oracle is nourished on this milk. Several women have been examined and three have been appointed to sacrifice all their milk in this manner."

At these words we glanced at each other and Thankmar said drily, "These animals use our women much in the way we use cows."

The depth of man's degradation came home to me in all its frightfulness, and in my agony, I cried, "Shall Judith also be brought down to that?"

Liuwenhord quieted me. "The Great Mother will not be brought down. She had to seek for and find her child. That was no more than her duty. Remember that the old tales tell how Isis herself sought her child through the whole world. Being a mother always means watching over children at any price."

Eight hours later we succeeded in finding Flius and Irmfried again. The girl sank sobbing onto her father's breast. She blamed herself for the whole business—if she had not gone looking for flowers, the baby would not have been stolen.

Flius was like a new and different man. All the dreaminess and uncertainty had fallen from him. I saw that his eyes shone clearer when he looked at Irmfried.

Liuwenhord comforted his daughter as though she were a little girl. He seemed to understand as clearly as I what Flius' glances meant, and worried and busy as he was, he suppressed a suspicion of a smile as he helped Irmfried dry her tears.

We kept in close touch with the big ship of the sacrifices by means of televisor

and radiophone. But when this vessel reached the open ocean, it struck up a speed that left us far in the rear. It was only a little comfort that we were able to see Judith and the baby.

Urania played with the other little girls, while around her, everybody danced and seemed happy. Judith had to take part so as not to make herself conspicuous. She let us know what she really thought of it, however, with one somewhat bitter sentence, "My companions in misery don't know what is waiting for them." The crew seemed good-natured and carefree, after the fashion of negroes. Theirs was the great honor of personally serving the Drusonians. Before the chamber of the Oracle, they showed awe and timidity. If they passed the door, they bent to the floor with hand on forehead to demonstrate their entire submission. But the whites were not behind them in their respect for the Oracle. Judith told us that the women who sacrificed their milk were honored by the others as especially holy persons.

We pointed our prow toward Cape Town. Liuwenhord was willing to call up one of our airplanes that lay hidden in the bay of St. Helena, but we decided that, although we could gain nine hours by this means, we would arrive without a base and without being able to carry anything in the way of instruments or weapons. "With the machines and materials I have here," declared Hurst, "we can really undertake something. I have an atomic destruction machine here; I can begin the battle if necessary, but I need the floating laboratory on this boat."

● Nevertheless, these nine hours might have been important, as we felt when we were still six hours from Table Bay. The televisor was turned on the Drusonian capital and we discovered the great space-ship out in the bay, all ready for its journey. I myself looked on while the sacrifices went down a long gangplank in single file into the interior of the colossus, which lay there shimmering, made entirely of a thick, irridium-like metal. For the last time, we heard Judith's voice, "Don't worry; we'll be all right. I still believe we can be saved and set free. I have heard them say that another space-ship is coming in half a month and will return immediately to Druso. It seems they always send them in pairs."

Hurst nodded. "It is the principle of the old cable railroads applied to the stream of electrical force. The problem seems clear."

This event came so unexpectedly that I could hardly grasp its meaning. I stood helplessly before the white panel of the televisor with the rest, observing the departure of the space-ship. The water was almost all pumped out of the great bay where it was enclosed by a long mole, and the great ship itself sucked back into the huge discharging tube. Then, for a moment, we saw nothing but a great flash of golden lightning. I felt my hands turning ice-cold; my head was hot as fire, and I shrieked, "I will bring back my wife and child!"

Liuwenhord ground out, "You cannot go. You are our commander-in-chief for war."

But beyond myself, I cried, "I'll kill anyone who stops me!" and my appearance must have been dreadful, for he left the cabin. But a moment later he came back to say, "You are acting on impulse and acting rightly. Wars are not won on intellect alone. You shall go."

Irmfried came to us. In her quiet, steadfast way, she said, "It was my fault that the child was taken, my fault also that Judith went with her. I will accompany you."

And Flius added, "If Irmfried does, so will I!"

Liuwenhord was pale. He turned to Flius. "Isn't it enough if Alf goes plunging into adventures and I sacrifice my daughter to the Great Mother?" he asked.

But Flius shook his head. "This affair is mine as much as theirs. Irmfried wanted to sneak aboard the transport ship at Villefranche, but I held her back, and now I must go where she goes. My knowledge of science will do more good there than

here on earth, now that the preparations are so nearly finished and you have Hurst."

So the adventure was decided upon, and once it was decided, Hurst organized all his resources in a manner that made even me hope again. He set up little televisors to keep watch in every direction for anything that might approach us. A couple of the young men were set to work searching out paths by which we could reach the harbor without being seen. A place was located near the harbor and a passage begun leading to the storage place for goods destined for Druso. The beetle-like Drusonians patrolled the place carefully from above, but the goods themselves were handled by men, working under the orders of the harbor Oracle. Thanks to a little colony of merchants that had long since been sent out from Boothia Felix, Hurst, himself, and some of his people were able to move about in Cape Town. A ship was prepared at St. Helena, and in the crew Irmfried, Flius, and myself took our places. Liuwenhord had a variety of materials and machines that we might need brought down and loaded into it. When we arrived at Table Bay, we were smuggled into the caves beneath the Atlantean colony on the ground over which a piece of land had been bought, ostensibly for the purpose of cultivating wine grapes. It was a wild, doubtful undertaking, in which as yet we could take little active part.

Liuwenhord bade us farewell proudly and gravely. He had to go back to the north to carry on the great work for the freeing of the world, in which our trip to Druso would be only an episode. We met in the captain's cabin of the submarine. "We must remember Ferryman," he said, "who gave mankind the courage to maintain the pride of our race." And he drew forth a book and read the famous verses that speak to the Atlanteans of the movement of the soul toward God. And Liuwenhord's calm faith was like a cooling oil that healed and soothed my spirit.

He embraced Irmfried, Flius, and me in farewell, and then with closed eyes, left our ship and betook himself aboard the submarine that was to take him back to St. Helena.

The big submarines that had brought us remained under water in a deserted spot on the coast, forty miles away, as a floating base and in preparation for emergencies, while we remained in touch with televisors and radiophones.

Hurst furnished us with everything he had prepared for the trip. Above all, he warned Flius about the dangers that life on the space-ship and on Druso itself probably held, discussing with him the means of overcoming them. According to his observations, the biochemical-electric processes of life must exhibit considerable differences from those on earth. "The fact that the Drusonians put the space-ship crews and their human freight to sleep," he said, "so that only the steersman seems to be awake and be in an electrically charged compartment, seems to show that the Drusonians only need the men after they have arrived on their planet. There the organism must accommodate itself to conditions. All the processes of life must demand a smaller amount of electro-chemical energy than on the much heavier earth. You yourself can observe how this works out. But I am providing you with this new apparatus which I have worked out from that used by the Drusonians and which is an improvement on theirs. It will hold the bodily chemical and electrical processes in the correct proportion. Now don't lose your head, and be good!"

• We were also equipped with blue armor and with one of those metallic net-garments that protects the body against electrical influences, enabling it to pass through high-tension electrical fields without damage. This was a development of the old museum pieces from the days of war on earth when electrical fields were the last word in military science.

Everything was worked out to the last possible degree, and we entered upon our adventure better equipped than any similar party in the history of the world.

Hurst's plan to get us aboard the space-ship was very simple. He had remarked that a great deal of wool was carried to Druso and thought that the simplest plan would be to send us over in the form of balls of wool. This was possible because the cargo of the space-ship was carried, not like the cargo of a ship on earth, but in great nets, not packed tightly together, a procedure made necessary by the fact that the weights of objects on the space-ship were constantly altering and therefore no tight packing could be done. But as it happened, this simple plan had a hole in it. Among the dock-loaders of the space-ships were a certain number of Atlanteans who had for a long time been in Liuwenhord's service. Hurst had counted on the fact that these loaders would have easy access to the warehouses where the wool was stored before being loaded on the space-ship and that once we were packed around with wool, we could be loaded in without being seen. But he had not counted on the automatic preparations the Drusonians had made against anything of the kind. A whole day before the arrival of the ship, all the warehouses were closed tightly and guards set over them; it was impossible to get in.

We were much upset by this failure at the last moment, but Hurst remained unworried. He had so closely observed every detail of the business of sending off the space-ships that he immediately had another plan ready. A great deal of combustible material was on board each space-ship. Naturally, they were so carefully protected that there was no real danger from fire, since fires had played a great rôle in the history of space-ships, evidently among the Drusonians as well as with us. But three of the Atlanteans among the dock-loaders were given strict orders to kindle a blaze while the sacrifices were being loaded. They were to follow this up by making as much noise and confusion as possible.

Before loading the human freight into their space-ships, the Drusonians collected them in a big waiting room which would not be hard to reach, the more so since no very careful guard was kept on it, as the sacrifices themselves, looking forward to nothing but happiness, were docile and not inclined to leave. These people were sent on board the ship, and not until they were in were they accounted for. On this part of the Drusonian system, Hurst built his plan. As soon as the confusion and cloud of smoke, which was the result of the fire, should break out, drawing all the crew to the scene of the blaze, we would leap in with the sacrifices and conceal ourselves in the cargo-room. We already knew, through Atlantean spies in the crews, what would happen next. The doors were closed and locked and all machines and apparatus in the space-ship controlled electrically from one of those crystal-cylinders inhabited by a Drusonian not vastly different from those found in the Oracles. After the closing of the doors, there would be a final inspection, a ringing of bells, a flickering of red lights. The human captain of the ship took his place in his cabin in his bunk, like the rest of the crew. When the ship began to move, a kind of numbness overcame everyone on board, from which they did not emerge till the ship was anchored on Druso.

Even about this numbness we had been informed by one of the Atlantean spies. One of the mechanics had succeeded in overcoming this feeling for long enough to attempt to move about; he immediately felt a violent nausea, was unable to keep his feet, and the slightest movement caused him to make great swimming leaps fifteen to thirty feet long.

Nobody would think of hindering our taking aboard all the articles we needed. The sacrifices who went on board were accustomed to take with them all their clothes and little possessions as though they were emigrants to a new country. The Drusonians understood too well how mankind clings to little things to prevent their prisoners from drawing all the comfort they could from the presence of their possessions.

Rapidly improvised though this second plan was, it covered all the possibilities. Even the matter of finding a place on

board was not left to chance, but placed in the hands of Atlantean members of the crew. And at the landing-point on Druso, we would be met by more men from Boothia Felix whom we could recognize at once by the little blue dots under their ears.

The only thing we had to regret was that we were not going on one of the space-ships on which one Atlantean had been steersman and another chief engineer for the last five years. But we were to gather all the information we could about the ship and how to handle it for the return journey. "If necessary," declared Hurst, "we will capture one of the other space-ships and come to get you."

I could hardly restrain a smile, in spite of the gravity of the situation and the undertaking. We had been through a good deal, but Hurst as a pirate!—that was altogether too much.

Today I look back on it all and wonder at how trustfully we followed out all his directions. There was not the slightest doubt, even for a moment. We bowed before his judgment, left everything to him. But as a matter of fact, there was little else we could do. The earth had lost all meaning for us three; we must go to Druso. We were like bullets about to be shot, instruments who had forfeited all individual judgment.

We had observed the coming of the space-ship from our station. For a moment, it seemed as though there were a dark hole in the sky, then there was a blaze of light and a great geyser of water sprang up from Table Bay. The boat was in the water, striking with such force that clouds of steam leaped up around it. Then up out of the water the conical tail rose, shining in the sun with the golden reflection of polished metal. Metallic gangplanks reached out and took hold of the monster, but it was six hours more before anything further happened. Then the doors opened and a number of ants seemed to be swimming around the colossus. This was the signal for us to go on shore. An Atlantean led us into a little house by the harbor's edge where we found the two stevedores, large, powerful men, who had been twelve years in their hard service, silent and obedient as soldiers. They were filled with a joyful excitement to see us really making an invasion of Druso at last and gave us as much information as they could.

When it was dark, one of them came to lead us into the hall where the human freight for Druso was gathered and the other went on down to make the preparations for the fire that should cause the necessary confusion. Hurst bade us farewell. "Don't forget," he said, "to get my magnetic apparatus going on the return trip. Otherwise you will have to wait the usual six hours before you can get out on the return trip, and that might compromise everything, as we mean to strike the moment you arrive." These were his last words, and good words they were, for they expressed his certainty that we would come back.

CHAPTER XVIII

Aboard the Space-Ship

● Outside, the stevedore took charge of us. We were led into a great empty room. The machines were quiet; everything was at rest. He opened the door of the waiting room. Long linen awnings covered the gangplanks and it was easy to conceal ourselves among them and wait. When the hall was opened and the people had begun to pour in, it would not be hard to step out and mix with the motley crowd. Up to this point, our enterprise was without peril or difficulties.

We did not sleep that night; everyone was too excited. We conversed about the undertaking in low tones, went over all its details again and again, and finally, Irmfried closed the conversation with the remark, "We won't be able to accomplish a thing if we go over everything like this. We must leave ourselves free to meet emergencies with variations in the plan."

It seemed ages before morning. Our watches showed that it was somewhere near ten o'clock when we heard a con-

fused murmuring at the door. Orders were given and we ducked under one of the great tables as the doors were flung open and a crowd of people flooded into the hall, happy and laughing. As soon as they were all around us, Flius stood up, then I backed out as though I had been looking for something underneath the table, and finally Irmfried joined us. There were some women with children to whom she attached herself at once. From what they said, as well as we could make it out, it appeared that the whole company had been entertained the evening before and had passed a comfortable night of slumber. Even the children who had been brought without their parents were delighted with the trip and showed not the slightest trace of loneliness or regret. They had been given toys and filled the big room with a merry clamor as they played with them.

Irmfried whispered to me, "This hall reminds me of a big cattle pen somewhere in Australia."

The exit doors finally opened and everybody began to stream down the six gangplanks that led to the shipping dock, everyone with his bundle in his hand or his sack over his back. It seemed as though we were climbing into a steep metal tower. The first of the gangways was set aside for the children. It was a ramp with a gentle grade and climbed to the first platform in a spiral whose sides were protected with canvas. Then came a second gangway for women with children, a third for women, and a fourth for men. We had to part from Irmfried and saw her slowly climb into the ship while we were doing the same. I don't know how high a climb it was, but it was difficult enough so that we had to help one another. There was a clamor of voices, but we had eyes only for the girl who was climbing upward somewhere below us. We were already on the platform when she reached it. Her blonde head was clearly visible among the dark ones of most of the other passengers. In the thick press, we edged toward the right side from where the gangways went into the ship itself. Each of these gangways had a pair of guards and, as we waited, our nervousness grew. The separation from Irmfried seemed to have destroyed our confidence. We glanced at our watches; at 12:30, the anticipated excitement was to take place. Irmfried motioned to us calmly; her self-control was absolutely marvelous. As for me, I was nervous but strangely unaffected except on the surface; within, it seemed as though nothing mattered. . . . Three heavy strokes of a gong; the watchers at the gangways turned; there was a shrill sound of whistling and a whirl of smoke from overhead.

The gangway watchers tried to calm the crowd, but the smoke was now accompanied by a biting odor that gripped at throat and nostrils. The smoke grew thicker; this was the moment. Shouting, we pushed the crowd around us forward and pressed through the smoke to the gangways and up. As we reached the deck, we saw that Irmfried was already there, accompanied by the stevedore. He beckoned to us and we raced along a narrow passage behind him, as he said over his shoulder, "Everybody is up there in the oil and ether compartment."

The ship was bewilderingly large and complicated. Hurst had gone over the whole thing with us on a series of plans and explained the rôle the insects played in these ships, drawing a diagram to show how the chromosomes of the insects were built on the plan of an electrical station. Through certain nerves passed electrical currents, and every room of the ship was in some way wired with one of these nerves. There were no big rooms, but a series of small cells, perhaps seven feet wide, ten feet high, one leading into another, and it was comparatively easy to lose one's self in this complex of cells. The stevedore pointed out that our path back through the thing was indicated by a series of tiny blue dots along the walls, placed there by himself and his companions. We finally got to a cargo compartment and the stevedore built up in front of our hiding place a barricade of metal

boxes; in a narrow space not big enough to lie down, the three of us were packed in for the trip.

By the shouts and orders we heard in the distance, it was clear that the fire-fighters were at work, but in hardly ten minutes, we heard the whistles shrilling again and realized that the fire had been smothered, beaten out, with as much efficiency as it would have been on one of the great flying liners of our own time.

"Where are we getting that light from?" asked Irmfried when we had settled ourselves a little.

We discovered that the sides and floors of the place were self-illuminated through what at first seemed to be a thick glass, but what, upon examination, proved to be a metal of whose composition we were ignorant.

Irmfried settled herself as comfortably as possible, but Flius and I, both nervous, could not be still.

It seemed to me that we were suddenly becoming deaf. I noticed that Flius was leaning to one side, as though weary, and I also felt that I could no longer hold off the temptation to sleep. It occurred to me that this was the result of our sleepless night spent in nervously discussing our plans, and I slipped off, but suddenly woke to hear the sound of Irmfried's voice in my ears. "I'm glad!" she said. "I thought you were never going to come to. Flius is still under; do you know you have slept twenty-four hours? I was asleep, too, but I came to after eight hours of it."

"What!" I cried, astonished. "Are we on the way already?"

"Certainly," said Irmfried, "and you forgot Hurst's advice to turn on the electrical apparatus. Don't you remember that we were specifically warned that we must fight off that numbness? We're in the same position as the early space-flyers who discovered that space has different biochemical laws than the planets, and that they had to carry special apparatus to keep their bodily functions from sinking down."

● I said nothing but thought that it was lucky we had brought Irmfried. If it had not been for her watchfulness, our adventure would have been ruined at the start.

When I look back upon this journey through space, I think that its most striking feature was the utter silence. We had no sense of motion, no sense of time; we simply hung in the heavens in perfect quiet.

Flius finally awoke. "One of us must get out of here," he declared. "We need a pair of those metallic shoes that Hurst mentioned."

"But Hurst also said," replied Irmfried, "that we would probably be unable to move until our bodies had adapted themselves to some extent."

"No, let's try it now," I said. "I'll look for the shoes. The whole ship is asleep. The Drusonians have no televisors; this we know; and evidently, they haven't any other very sensitive apparatus for watching purposes, or they would have found us already."

"Why don't we look up the Drusonian in the televisor?" suggested Irmfried.

Excitement and our bodily difficulties must have reduced us to a state of utter stupidity when we could come to the obvious and necessary step only as a last resort. But the televisor served us well; we penetrated the whole cell-web of the ship. There, near the post of command, stood the crystal tube of the Oracle. A metallic cylinder of a composition and thickness impenetrable to our weak portable televisors stood like a shadow across the control compartment, but also showed us that there was nothing to fear from the Drusonian inside who seemed, like the rest of the ship, to lie under the spell of the numbness of space. The cylinder was hermetically sealed, the projections of the insect drawn in. Flius had a ray apparatus of the second order that could be coupled into the televisor, but we did not dare use it; the radiation from it might easily have betrayed our presence. I had the forethought to search out the com-

partment where the metal shoes were stored, however. It was easily accessible; I need only follow the same path we had taken in getting into the ship and turn to one side next to the outer door. The shoes were in wire shelves, clamped in so as not to jump around with the movement of the vessel. I undertook the task of securing three sets, but found my journey thither less easy than I had hoped it to be. It was as though I were swimming in a thin sea of air; the slightest movement was sufficient to send me along for yards to bring up with a bang against some compartment wall. As I swam along, the reason for our weariness at the beginning of the flight became clear. The air-pressure within the ship was high, while the bodies of the people in it no longer possessed their earthly weight. This must place a powerful strain on the internal organs, bringing about severe exhaustion of the muscles intended to perform the ordinary functions of existence with the help of earthly gravity. Through this thick atmosphere, I went back through the ship and found it curiously easy to carry the shoes, that on earth I would have found extremely heavy, back through all the doors and curiously shaped rooms to the others.

Irmfried followed me. "You looked exactly like a fat tadpole in a pond," she laughed at me as I opened a door with my swinging movements and she slipped through with an eel-like motion.

We tried out the metal shoes. They were cleverly made and pliable, with an arrangement that suited them to the size of the foot placed in them. We reckoned up the time of our journey and found that we had at least ninety-two hours to go before we reached Druso, and to pass the time, we began to study the ship in all its details, as it would be both useful and necessary to know exactly where we were going when the moment came.

The human cargo was up at the prow in a great cubical room. Before the start, each one had been placed in his or her bunk, a little cubicle open at the feet and about six feet long, a foot or two high, and about as wide as it was high. The observation did not tend to promote my feeling of confidence or comfort. I thought of Judith and little Urania, and it was Irmfried, who, reading my thoughts, brought me back to myself with the remark, "Alf Bentink, remember that we have no reason to believe that Judith and Urania did not make this trip in every comfort."

It was interesting to watch the streams of electrical force race through their tubes. It was as though a whole nerve system of long blazing lights were flaming through them, in all the colors from infra-red to ultra-violet, a brilliant and beautiful sight from which it was hard to take away one's eyes.

"That would be something for Hurst to see," declared Flius. "If he could see it once, he wouldn't want to leave the ship at all."

A little later, Irmfried asked, "And how will we come out when they make a landing?"

I explained, "We must sleep in watches, like people on ships, two of us always staying awake, so that when we make the landing, we can get to places near the outer door."

"Good," Flius agreed. "Hurst tells us," —he drew forth his notebook of instructions—"that when we get off, we must mix in with the sacrifices."

"But," I remembered, "what if they separate the men and women again?"

We decided that Irmfried must be dressed like a man to make sure.

● The next task, then, was to find male clothing for her. Flius undertook the task. Thanks to the televisor, he was able to locate a pair of hose belonging to the steersman in one of the compartments, and to pick up various odds and ends elsewhere.

Irmfried got into the garments and looked out at us from under Flius' cap, rather like a good-looking and boyish young man.

"Do you remember," said Flius

thoughtfully, "that none of the Atlanteans has succeeded in returning from Druso?"

In spite of my own worries, I had to smile. It was altogether like Flius to engage in an adventure of this kind and then develop a streak of pessimistic reflection in the middle of it. Irmfried began to tell about some of the Atlanteans who had gone over. "Every one of them was told to get back if he could. My father has often hoped that some of them would make it. We have been sending spies out on this trip for over a hundred years. Since most of them are intelligent and better educated than the majority of the people the Drusonians have to deal with, most of them get the best positions in the service. I remember how Cassaniak went, some seven years ago. He was a wonderful ski-runner who taught me my first movements on the ice. Cassaniak became a steersman and captain of one of the space-ships, but the Drusonians simply dropped him from the service somehow, perhaps kept him on the other side because he knew too much or perhaps he was betrayed or gave himself away in some manner. We never found out what happened to him."

I realized suddenly that we would belong to the company of men who would be assigned to some slavery on Druso, though we could not have any certain knowledge of what fate awaited us there.

"I think that the Drusonians, in spite of all their strength and science, are a vanishing race," Flius remarked. "If they were not, they would have peopled the earth before this. As a matter of fact, they only keep the earth as a kind of reservoir and use the least possible means to keep it in their power. And it is worth noticing that even the police insects are formidable only because they trail behind them those flights of metal machines. It is entirely possible that they are, like so many conquerors, being conquered by their own prey."

"What's that?" cried Irmfried suddenly, gripping Flius by the arms. In the same moment, Flius bent forward and I felt my feet come down with a clang against the deck. "We're in the sphere of Druso's attraction," said Flius. We noticed how, as the first shock wore off, everything seemed to gravitate forward; everything in the ship went through a series of clicking shiftings as we came farther and farther into the planet's influence. Through the televisor, we could see that the electrical machines were working at top speed.

"Get ready," said Flius. His voice was strained.

We pulled the white sacrificial garments over our blue, slipped into the heavy metal shoes, packed our belongings into bundles, and began to work our way to the exit doors. The shoes were a help, but we were not yet far enough on our course to be able to take real steps. We moved along like divers over the ocean floor and reached the gangway that led to the exit. We were sure that not even the crew would disturb us, since we had located their compartments clear up in the peak of the ship.

Suddenly, there was a trembling shock. We would have fallen if the shoes, which had now become perceptibly heavy, had not held us to the deck. Outside, there was a roaring sound, like that of escaping steam. The whole body of the ship began to tremble. The deck-levels shifted and we realized how cleverly the whole thing had been built. All the rooms seemed to be shifting toward the right-hand corner, and we had the feeling that we were lying on our backs, although we remained perfectly upright.

"The change is cellular," explained Flius. "We are in Druso's atmosphere."

(Concluded Next Month)

Read the
IMPORTANT ANNOUNCEMENT
on page 127

GIGANTIC MIRROR SPACE STUDY AID

200-Inch Glass May Uncover Secrets of Planets

By the Associated Press

CORNING, N. Y., March 29—The 200-inch mirror poured at the Corning glass works will never magnify even the nearest star to more than the pin-point size seen in present telescopes.

But it will give ten-fold more information on whether Venus is a young world, Mars a dying one, what comets are made of, the frequent "novae" or stupendous explosions out in dark space which seem to be the birth of new stars, what the black dust clouds are in space and whether space is something limited and curved, as Einstein suggests. For the big mirror will collect four times more light and take pictures ten times faster than heretofore.

The methods of using this 200-inch engine are bold strides into a future of astronomy which substitute analysis of electrical heat and magnetic energies for vision and thereby see things forever hidden from eyes by the thickness of the earth's atmosphere.

Take the "youth" of Venus, an idea suggested by some astronomers which puts her back, compared with the earth, into a condition that may have existed here hundreds of millions of years ago. Telescopes already have identified the presence of large amounts of carbon dioxide high above the clouds which cover Venus.

But almost no oxygen at all. In that contrast arises the youth hypothesis. For plants consume carbon dioxide and convert it into oxygen. No one knows surely whether this happened on earth long ago, but it has been suggested.

Also that on Venus exists the carbon dioxide for a lush plant growth which may some day convert that gas into much larger proportions of oxygen. More plant food and more oxygen would be imagined to favor the start of life as it exists on earth.

But theoretically it also is possible that the oxygen originally present in Venus' atmosphere was absorbed by her rocks. So that now she isn't really youthful compared with earth. But just sick.

The 200-inch mirror telescope will greatly extend the tenuous information about Venus' atmosphere.

Mars' apparent old age is similar. Its redness is not the blood which gave it the name of the mythical war god, but may be caused, according to modern telescopes, by the rocks having absorbed so much of the Martian oxygen.

The great patches about Mars' middle section, green-gray in spring, yellowish in fall, which have been taken for vegetation, will yield more of their light rays to the 200-inch mirror. And so come closer to telling the truth about themselves. Likewise the fine lines on Mars—the "canals," which some astronomers have considered artificial, and so the works of intelligent beings.

The planet Jupiter may be liquid rather than solid. Vision cannot settle that, but the analysis of Jupiter's radiation in the instruments of the new 200-inch mirror telescope should go far toward clearing the mystery.

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The cream of contemporary Science-Fiction. A few of the forthcoming tales are:

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ENSLAVED BRAINS by Eando Binder is our serial starting next month, in three parts. Though each of the author's previous stories has been better than the preceding one, the present vivid novel eclipses them all. This is undoubtedly the greatest story of our future civilization with all its blessings and curses that has appeared in several years. You will live in the days to come as you never have before. Every sentence is so masterfully executed that it will scar a living, mental picture into your brain, a picture of things as they are to be.

THE MAN FROM BEYOND by John Beynon Harris is an interplanetary story with a new, refreshing plot. What would you do, were you faced with the situation that confronted Gratz? Never before had a man been struck with such a terrible revelation — never had anyone been forced to learn a secret of such monstrous proportions. You will sympathize with Gratz and pity him, and thank your lucky stars that you were not in his place.

THE LAST SHRINE by Chester D. Cuthbert. The great success of this author's first story, "The Sublime Vigil," will make this tale most welcome. Like his first, this one propounds a brand new idea never even hinted at in science-fiction before — a logical, new story.

THE MEN FROM GAYLN by E. Mantell shows us a terror that descends upon mankind — not a terror from another world or dimension — but one from men who were *not yet born*. Breathless action and terrific destruction make this tale a real thriller.

Watch for these stories in the next few issues, among others by the leading authors in the field

WONDER STORIES—*ON ALL NEWSSTANDS*

Science Questions and Answers

THIS department is conducted for the benefit of readers who have pertinent queries on modern scientific facts. As space is limited, we cannot undertake to answer more than three questions for each letter. The flood of correspondence received makes it impractical, also, to print answers as soon as we receive questions. However, questions of general interest will receive careful attention.

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The Heaviside Layer

Editor, SCIENCE QUESTIONS AND ANSWERS:

I read in a science magazine that if a space-ship would travel into space, it would punch a hole in the ionized layer that surrounds the earth, letting in the harmful rays that the layer prevents from killing us. May I ask—would it?

CLAY FERGUSON, JR.
Roanoke, Va.

(If a space-ship left the earth and traveled into space, there is no reason to believe that it would punch a hole in the ionized layer far above, any more than a sunken ship would leave a hole in the ocean that would be perilous to other vessels. The space-ship would not logically leave a permanent opening into outer space. The ionized layer would remain intact, forming instantly behind the ship as it passed through.—EDITOR.)

The German Rocket

Editor, SCIENCE QUESTIONS AND ANSWERS:

In regard to your publication on the German rocket being shot six miles upward, is there any available data on the speed attained during the ascent? Also, please tell me how far a body would have to be shot out from the earth to escape its attraction?

R. IVEY,
Bloomsburg, Pa.

(In our March, 1934, issue, we republished the article you mentioned. It was first printed in an English paper, and then syndicated. We were hoping that our scientific readers would take particular notice of it, especially those interested in interplanetary rockets, and perhaps doubt its veracity. We are glad that you bring this question to the fore.

According to authorities, it is practically impossible to reach a height of 31,000 feet in ten minutes, twenty-six seconds, as the article would have you believe. This height with a rocket must be reached in very much less time, if at all. In fact, if the necessary acceleration could be maintained for ten minutes, the rocket could reach the moon without difficulty. Another problem is that of fuel; a tremendous amount of it is necessary to make any practical rocket flight, much more with our present fuels, than could possibly be accommodated. We cannot hope for passenger rockets that reach any height until a new, more powerful fuel is discovered than is commercially available. This may not be so far in the future. Authors suggest atomic motors, which should well suit the purpose.

A third factor to consider in a rocket flight is air friction. It has been mathematically calculated that a certain acceleration is necessary in order to reach a height of six miles (which would, by the way, bring the rocket to that height in considerably less than ten minutes); and, at the speed reached in the first few seconds, air friction would become a serious added resistance. But that, our authors tell us, is only a minor detail.

For over a century, many scientific hoaxes have been perpetrated upon the public—especially the famous "moon hoaxes." Whether this item concerning the German rocket is a hoax or not, we are not prepared to say; but there has certainly been a miscalculation somewhere.—EDITOR.)

Heavy Water

Editor, SCIENCE QUESTIONS AND ANSWERS:

I recently read in a science magazine a short article on heavy water. It stated that this chemical substance was discovered several months ago, and was so rare that a teaspoonful was valued at $600.00. I understand it is made by treating common water electrically.

Could you tell me how I can find the method for producing this heavy water? Also, what are some of the outstanding features of this "water," and why is it, or was it, so expensive?

WILLIAM F. GROSS,
Hollywood, Calif.

(Heavy water is not "created" by treating common water electrically. It is a separate substance which is found in the regular water, separated by evaporation. As heavy water evaporates more slowly than water as we know it, it remains in the containers longer, and can be isolated better when most of the water has evaporated.

The difference between heavy water and the ordinary liquid is that the hydrogen of the former contains a double nucleus, giving it a greater atomic weight and specific gravity. One of its peculiarities seems to be that it causes living creatures to grow old more quickly, when it is introduced into the bodies. It is so expensive because it is very rare and cannot be created artificially, but—like radium—must be extracted from its source. It is very possible that it exists in great quantities in the lowest "deeps" of the oceans, where it gradually settles.—EDITOR.)

The Beginning of Man

Editor, SCIENCE QUESTIONS AND ANSWERS:

While the earth is billions of years old, the age of the creature called Man is less than a half million. Just how did man first evolve—that is, where did he branch off from lower animals? Who were the first real men, and is evolution still going on? I would like to know something about this subject.

CHARLES W. HAMILTON.
Grand Rapids, Mich.

(We are now in the Cenozoic age, which is the Age of Mammals and the Age of Man. The true Age of Mammals is called the Tertiary period. At the close of this period, Nature began her colossal experiment—the evolution of the human brain.

The first erect ape-man, which can truly be called the first man upon the face of the earth, was the Java man ("pithecanthropus erectus"). The gorillas, chimpanzees, and orangs were his cousins. He was not much more than an ape himself.

Ages more passed, and we have the man of Neanderthal ["homo neanderthalensis"], who was far advanced over his ancestor of Java. His facial features were more like ours today, though he still had a very broad nose and slanting forehead and chin.

The next race of man in the great experiment were the Cro-Magnons. They left as relics, works of art, such as engravings on ivory, clay statuary, and colored wall-paintings.

Evolution is always going on, not only with man, but every living plant and animal on the face of the earth. It is likely that the race of men in the far future will look upon us physically and mentally as we look upon the Cro-Magnon.

You will find on this page an illustration, showing the relationship of facial features of three types of prehistoric men and a simian.—EDITOR.)

Einstein Again

Editor, SCIENCE QUESTIONS AND ANSWERS:

I have heard considerable about Einstein's theory of relativity, but I have never heard the theory itself. Will you please print it?

How does it come that if one atom is broken, it does not blast all the other ones, and so have everything go up in atomic fire?

DAVID BOWEN,
Oil City, Pa.

(We have, for the past five years, attempted to explain parts of Einstein's theories to the best of our ability, in these columns. You will find something of this nature in many of our issues, the latest appearing in the answer to a letter captioned "Einstein's Theory" in our April number.

We could not hope really to explain his theories in our columns, however, for they are very technical and lengthy. Furthermore, they are hard to comprehend. It is said that only thirteen people in the world can really understand Einstein's theory, and, according to an article in a recent issue of "Scientific American," only one person in a hundred has even a chance to glimpse part of its significance. Briefly, the theory you want can be stated in one sentence. Space and time are relative. To explain this fully would take several volumes. If you are interested in this subject, you will find many good books devoted to it in the public libraries.

There have been two groups in the atom-splitting discussion. One side thinks that the destruction of one atom would spread to others, and the process could not be halted by any material object, which would only become part of the general breaking-down process. The other side finds no reason why this should happen; which position seems to us the most logical. Scientists are daily "splitting" atoms without any great havoc being wrought, although radioactivity is created in the process. However, it costs more to split the atom than the energy it liberates, and atomic power is still something to look forward to.—EDITOR.)

The illustration above portrays the heads of four mammals as they appeared on the earth, reading from left to right. The last three are men, the first (ape) is man's predecessor, or, according to Darwin, the ape and the Dawn Man (Java man) had a common ancestor, though the Java man is not a direct descendant. Notice how closely the features of the "pithecanthropus erectus" follow those of the ape—the slanting forehead and chin, protruding lips, and flat nose. The cro-magnon could almost pass for a modern man, so much were his features like those of today, while the neanderthal man was not as far along the evolutionary scale by thousands of years.

"Something from Nothing"

Editor, SCIENCE QUESTIONS AND ANSWERS:

I have been looking over a past number of WONDER STORIES dated December, 1933, and your editorial on "The Wonder of Motion—Matter," at the finish of which you stated that the creation of matter out of nothing must have started sometime.

Does not your statement contradict the scientific adage that you cannot get something from nothing?

(Continued on page 188)

The SCIENCE FICTION LEAGUE

—a department conducted for members of the international SCIENCE FICTION LEAGUE in the interest of science-fiction and its promotion.. We urge members to contribute any item of interest that they believe will be of value to the organization.

EXECUTIVE DIRECTORS:

FORREST J. ACKERMAN
EANDO BINDER
JACK DARROW
EDMOND HAMILTON
DAVID H. KELLER, M. D.
P. SCHUYLER MILLER
CLARK ASHTON SMITH
R. F. STARZL
HUGO GERNSBACK, *Executive Secretary*
CHARLES D. HORNIG, *Assistant Secretary*

AS this issue goes to press, the May number, which contains application blanks, has not as yet been published, and at the present time, we have only our honorary members.

Following are excerpts from the letters of some of these members, which show their whole-hearted enthusiasm.

From Dr. David H. Keller, of Stroudsburg, Pa., comes the following message: "I am very much interested and pleased with your idea of forming a SCIENCE FICTION LEAGUE.

"We are living in a rapidly changing world. Years ago, nature study formed a large part of the interests of the young. It was possible to make collections of birds' nests, eggs, rocks, pressed flowers. People lived in the country. All of life was different.

"The present age is scientific. The collection of airplane models now replaces the hobby of egg collecting. A boy is now building his own radio at an age when he was building a stone boat fifty years ago. He is playing with electricity instead of baby calves.

"His literature has changed. Thirty years ago, the hero of juvenile fiction was satisfied to become a successful merchant; now he must reach the moon in a rocket ship; instead of collecting valentines, he wants complete files of science-fiction magazines and is made happy by gathering manuscripts and autographs of his favorite followers of Edgar Allan Poe.

"So in your idea of forming a SCIENCE FICTION LEAGUE, you are properly giving all of us what we want, because all of America interested in science are young in ideas and ambitions and dreams, irrespective of real age. I am honored to be asked to become a member, and want to help in every way."

We believe that the above letter is the best one we could use to start off this department. In it, Doctor Keller expresses our sentiments one hundred per cent.

"Of course, I shall be glad to join the SCIENCE FICTION LEAGUE as an honorary member and incorporator.

"The purpose of the LEAGUE is indeed laudable, and I hope it will do much to further the cause of science-fiction."—Aóthor, Clark Ashton Smith, Auburn, Calif.

Forrest J. Ackerman, San Francisco, Calif., who is familiar to all science-fiction fans, says in his letter, "I am greatly honored and highly pleased by your invitation to me to become an honorary member of the excellent SCIENCE FICTION LEAGUE.

"I shall be pleased to create all the interest possible in this organization, and allow me to say that I am highly gratified to see that it is you and WONDER STORIES who form this fraternity for the many science-fiction fans."

In the letter from P. Schuyler Miller, author, of Scotia, New York, we read: "I will be glad to be affiliated with such an organization as you describe. The SCIENCE FICTION LEAGUE can and probably will perform many important services to science-fiction enthusiasts, and, as the *Writer's Year Book* remarks, this includes a majority of science-fiction writers. Especially will this be true if the organization is international in scope and membership.

"You are the natural one to launch such a movement, and WONDER STORIES its natural organ. I hope to be able to help it prosper in the near future."

Jack Darrow, of Chicago, Ill., one of the country's leading science-fiction fans, writes, "I accept with much pleasure your invitation to become an honorary member and incorporator of the SCIENCE FICTION LEAGUE.

"Such an organization will be very helpful in the evolution of science-fiction. I am happy to see that you, the father of modern science-fiction, are the sponsor.

"I will look forward to more news of the SCIENCE FICTION LEAGUE."

Eando Binder, a popular author, tells us that "to all indications, the LEAGUE which you are promulgating is a great and wonderful movement, of which I shall be proud to be an incorporator and honorary member. I thank you for your consideration and hereby offer my full co-operation."

Edmond Hamilton says that the SCIENCE FICTION LEAGUE "ought to serve a good purpose and I hope it goes over big."

POTENTIAL MEMBERS

The editorial in the April issue brought forth many enthusiastic letters from active fans that promise the LEAGUE their full support. We here print only a few of them, though we have received many more that are typical.

"At last it has come! The SCIENCE FICTION LEAGUE is exactly what was needed to bind more closely editors, authors, and fans. The emblem that has been decided upon is really an excellent one, and embodies the real spirit, and truly symbolizes Science Fiction. The idea of using this design for lapel buttons and stationery seals is fine.

"And to the fans: As sincere science-fiction fans, we should all do our best to make this move a *real* success; much bigger than Science Fiction Week. For, after all, it is to the best interests of our several magazines, and should be extremely interesting as a league.

"I am myself extraordinarily interested in this movement, and want to be one of the first to pledge my support. And, of course, the usual suggestions: For instance, the SCIENCE FICTION LEAGUE emblem printed in colors on the cover each month and a special department for LEAGUE news, announcements, etc., in WONDER STORIES.

"You are right in saying that many fans make a hobby of collecting science fiction. I, myself, spend all of my spare money and time on the subject, and my library is growing slowly but surely."—Lewis F. Torrance, Winfield, Kan.

"Your editorial promises something—the very thing—we (the readers) have been waiting for. Especially the identifying letterheads, seals, envelopes, etc. I know. I've written to more than one of your more intelligent readers and received no reply. The cause I lay chiefly to the fact that trying to make friends without something to identify oneself gives the recipient a feeling that it is some kind of a trap (commonly known as 'skin-game'). As a loyal itinerant science-fictionist, I hope

some of the fellows I wrote to will see this and be assured that my missives were written in all sincerity. A bouquet to the SCIENCE FICTION LEAGUE."—Joseph Hatch, Leavenworth, Kans.

"We are organizing a science fiction club here in the Twin Cities for the purpose of popularizing fiction of this type. There are no dues. We would be glad to hear from anyone else in this vicinity who might be interested."—Leonard R. Nestor, Minneapolis, Minn.

The above letter was sent to us before we announced the SCIENCE FICTION LEAGUE. Mr. Nestor, and the members of his club, will be glad to form the Minneapolis SCIENCE FICTION LEAGUE chapter. If application is filed soon enough, it may be so honored as to be called Chapter Number One.

"I want to congratulate you, Editor, on the SCIENCE FICTION LEAGUE. That is something big; it means work, but it will meet with everybody's approval, one and all. I'm for it, to the last man!"—Thomas R. Daniel, Claremont, Calif.

"WONDER STORIES has improved a hundred fold in this issue! The main reason for this statement is your latest innovation—the SCIENCE FICTION LEAGUE. Let me be among the first to thank you for your 'thoughtfulness' of its origin. Without a doubt, it will be the greatest club in its field, for with its wide scope of members, its aims, and policies, it will succeed beyond your fondest hopes."—J. H. Hennigar, East Tawas, Mich.

"The SCIENCE FICTION LEAGUE is the very thing I have been waiting for. You can put my name down for it right now. One of the great things the SCIENCE FICTION LEAGUE can do is to increase the popularity of science-fiction."—Milton Rothman, Philadelphia, Pa.

"I was especially glad to see your announcement of the SCIENCE FICTION LEAGUE. This type of fiction needs something like this to join the readers together. I hope the others in the field of science-fiction publication will give their co-operation."—Robert Hart, Wethersfield, Conn.

"I read Mr. Gernsback's announcement in the April issue of WONDER STORIES. I was indeed pleased. I have waited long and earnestly for an organization of this type."—James N. Mooney, Jr., DeLand, Fla.

We believe that we have thousands of readers just as willing to give the LEAGUE their fullest support as the writers of the above letters.

A BIG SURPRISE

Here is a big surprise for ten fans who have joined the SCIENCE FICTION LEAGUE. They have already joined, by the time this issue is published, though we do not, at this writing, know who they are. We can best tell you what it is by printing a communication from David H. Keller, M.D., the favorite science-fiction author of thousands of fans and one of the executive directors and honorary members of the SCIENCE FICTION LEAGUE.

"In regard to the collection of manuscripts, I can help. Here is my offer. To the first ten members of the SCIENCE FICTION LEAGUE who like my stories and want an original manuscript of a science-fiction story of mine with an autograph letter, I will send the same, provided they write me telling me just why they enjoy me as an author and want to add the manuscript to their collections. Letters are to be written in ink on one side of 8½ by 11 paper, leaving a two-inch margin. I will pay the postage. They should state their three favorite stories. That is my first contribution, and I will be glad to do anything else you can suggest to help make the SCIENCE FICTION LEAGUE a real inspiration to the membership."

In the next issue, we will print a list of the first ten fans who have joined the LEAGUE, with their addresses. If your name is among this lot, write to Dr. Keller. The ten letters that reach him will receive the manuscripts. Remember, your name must be in the list published next month, the list of the very first members of the SCIENCE FICTION LEAGUE. We will give you Doctor Keller's address so that you can write to him, and in the following number we will announce the ten lucky members.

ADVANCE SUGGESTIONS

Here are a few advance suggestions of how you can help the SCIENCE FICTION LEAGUE:

(1) If you wish to form a local chapter of the LEAGUE, get a newspaper to print a notice in the society or club section. They will do this free of charge and it will aid you in securing many members.

(2) Send to Headquarters all the suggestions that you believe will improve the SCIENCE FICTION LEAGUE and its activities. You may have some valuable ideas that will greatly aid the cause of science-fiction. This department will appear monthly in the magazine and will be used as the voice of the members and executives, so do not hesitate to use it freely.

(3) If you are a student in high school or college, try to form a chapter of the LEAGUE in the building, with students as members. Most educational institutions allow for clubs of all sorts and would be pleased to harbor one more, especially one with standards as high as the SCIENCE FICTION LEAGUE. These school chapters will be treated by Headquarters as any other chapter.

(4) Try to write editorials propounding the merits of science-fiction in general and place them in your local newspapers. Stress the fact that science-fiction is educational and broadens readers' minds.

If you have not as yet joined the LEAGUE and wish to do so, you will find application blanks in another part of the magazine.

See Page 127 for applications and essential information of
THE SCIENCE FICTION LEAGUE

BOOK REVIEW

PIRATES OF VENUS—by Edgar Rice Burroughs. 316 pages. Frontispiece and four full-page illustrations. Stiff cloth cover, size 5⅜" x 7¾". Publisher: Edgar Rice Burroughs, Inc. $2.00.

Carson Napier, a young, reckless American, inherits a huge fortune from his great-grandfather. After experimenting in rockets for a pastime, he builds a space-ship with which he intends to fly to Mars. The story of his adventures after he has left the earth is conveyed to our planet by telepathy with a friend in California.

Soon after Carson's space-ship has passed the moon, he notices that the vessel is starting to fall toward the sun rather than continue on its way to Mars. He had forgotten the moon in his calculations of planetary attractions! Luckily, Venus happens to intercept his fall to the sun, saving him from a horrible death. He lands safely with a parachute and finds the atmosphere breathable. Trees on the planet are five to ten thousand feet tall.

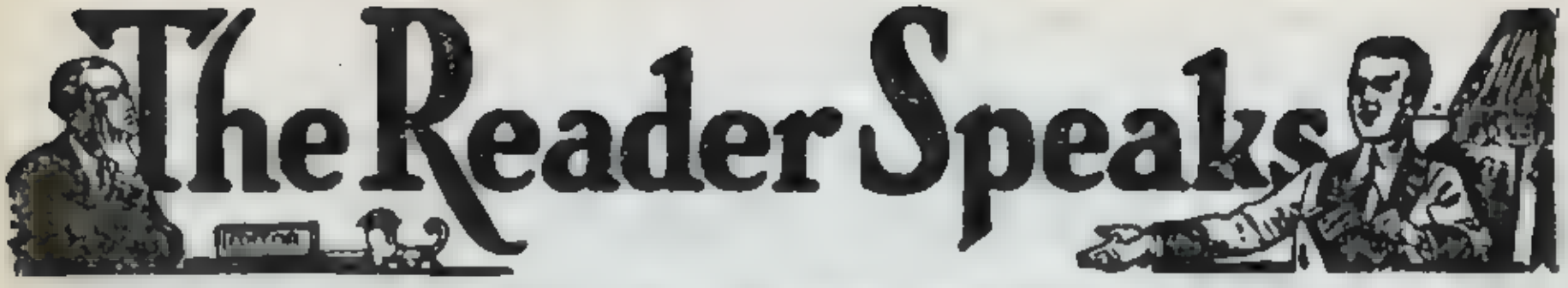
Adventure comes thick and fast. He is fighting with a terrible jungle creature which is somewhat of a mixture between a tiger and crab, when he is rescued by a group of dark men who dwell in the trees. They prove friendly and he soon learns their language.

He falls in love with a beautiful girl, the princess of the country, but he learns that it is the worst evil merely to speak to her, for she was the jong's (ruler's) only child.

During a raid upon the land of the tree-dwellers from the land of Thora, the enemy, the princess is captured. Carson joins a party to rescue her, not knowing that she is the girl he had fallen in love with.

After terrific struggles, he rescues her all alone. They find themselves on a cliff overlooking the sea. At a distance is the ship which is to rescue them, but only two of the klangan (winged-men) come to the rescue and can carry but one back, which, of course, is Duare, the princess. But as she disappears in the distance, she screams back to Carson that she loves him as he loves her. Carson is then recaptured by the enemy, but is content in the knowledge that he had won the love of Duare, the princess, though he could never lawfully possess her.

As any dyed-in-the-wool science-fiction fan can see, the plot of the story is nothing new, and only a master of fantasy, such as Burroughs, can rehash this old idea of the hero who rescues the beautiful princess from the enemy and keep the story absorbing from the first page to the last. We recommend this tale to all lovers of fantasy.



In this department we shall publish every month your opinions. After all, this is your magazine and it is edited for you. If we fall down on the choice of our stories, or if the editorial board slips up occasionally, it is up to you to voice your opinion. It makes no difference whether your letter is complimentary, critical, or whether it contains a good, old-fashioned brickbat. All are equally welcome. All of your letters, as much as space will allow, will be published here for the benefit of all. Due to the large influx of mail, no communications to this department are answered individually unless 25c in stamps, to cover time and postage, is remitted.

"He Murdered His Facts"

Editor, WONDER STORIES:

I noted the letter of Andrew Lenard in the April issue, and was glad to see that somebody stepped to the front and corrected the mistakes Rice Ray made in his story, "Today's Yesterday." He practically murdered his facts, and he should take a course on talking pictures before he writes any more stories like that one! As Mr. Lenard states, some of the actions of the two men with the motion picture apparatus are well-nigh impossible. I'd sooner believe a time-traveling ship than I would the sound track showing horizontally on the screen, if I saw them both at the same time!

Another thing I wish to remark upon was that the people of Paul's cover didn't resemble Winter's people very much, but the item is too small to argue over, so forget it.

I enjoyed a good cover for once—no, twice. This month's and the January covers were the best of the year. Are those white lines around the Earth supposed to show the earth's rotation, or a press smear? I shouldn't think one would see the Earth whirling around from the moon. Or is that supposed to be clouds?

BOB TUCKER,
Bloomington, Ill.

(It seems as though everyone slipped up on "Today's Yesterday"—the author, the artist, and the editor for letting both get by. We can only say that we are glad such things do not happen often for we watch the science in the stories and the art work very carefully.

Scientifically, the earth as it would look from the moon would not be recognizable as such, most likely, and Paul must take his artistic liberties in order to show the readers that it is the earth and that the scene is taken from the moon.—EDITOR.)

Call for C. A. Smith

Editor, WONDER STORIES:

For the luv-o-mike, why don't you get some more stories by Clark Ashton Smith? I've noticed many letters in your columns asking for his tales lately, and they're sure to make a hit. However, if Smith is not writing science-fiction at present, that's another matter. I observe that none of his science-fiction is appearing in any competing magazine, so I suppose that's the situation. But keep on calling on him until he writes some more science-fiction in desperation.

Personally, I think that all stories that end in the air should not have sequels—I mean that some of them are better off without them. Take Manning's "Caverns of Horror." Some readers have asked for a sequel to this story, stating that it needs one. I don't think that it does. As it is now, it leaves us with some realm for our own imaginations. Let us write our own sequel—in our own minds. Many stories are spoiled by sequels. The same can be said for Rice Ray's "Today's Yesterday."

Your "Forthcoming Stories" article is certainly welcome, but I wish that you would not forecast stories that will not appear for more than three or four months.

Need I say that your magazine is the best in its field? No, I need not—it's perfectly obvious.

GWENDOLYN MORRISON.
Baltimore, Md.

(As we have repeatedly stated, we are particularly pleased to receive letters from our female readers. They seem to take particular care in criticism and invariably include many helpful suggestions.

Clark Ashton Smith has not written any science-fiction for quite a while, but as soon as he finds time, we will do our best to get his material for you.

We believe as you do, that some sequels spoil the original stories.—EDITOR.)

The Scientifunnyarn

Editor, WONDER STORIES:

I *think*, re your foreward to the scientifunnyarn, "Brain-Eaters of Pluto," that the various connotations of your neological vocables—the multitudinous collection of expressions tantamount—were assertedly too heterogeneous for accelerated condensation by any but the most perspicacious of *homo sapiens*. Og's philogistines!

"Brain-Eaters," by the way, was most amusing.

Skipping back to an issue I have more completely read, Eando Binder's "Spore Doom" was a pretty interesting story. I liked Winter's illustration for it, but the tale, "Sublime Vigil," just didn't seem quite to "come off."

"The Vengeance of a Scientist" was excellent!

"An Episode on Io" pretty good; two-part "Evolution Satellite," a little while back, a pip.

While you're trying new artists, would like to see some illustrations by Elliott Dold, Joe Schuster, or Clay Ferguson? Think you could arrange it? The cartoon strip idea is swell.

Tell Frank he never Pauls on me.

The contribution from Mr. Lenard of Hungary might well be listed in your Table of Contents as a feature of your April issue. No fooling. The amateur producer, scientifiction fan, excites our imagination with announcement of "Cataclysm" and scenes from his scientifilm. I hope you can print the third "still." Much power to Andrew Lenard—and I hope his contemplated new picture may be a great success.

"The Vengeance of a Scientist" would make an interesting film! We have seen what can be produced with trick photography in the way of magical effects: *The Invisible Man*, *Deluge*, *King Kong*. (I was delighted to see you give a cover to *Invisible Man* in your scientifaction publication, EVERYDAY SCIENCE AND MECHANICS, and to present the explanation of the mysteries of its filming.) Many fine pictures might come from your pages. For a few, I would like to see filmed "Lunar Consul," "Revolt of the Scientists," "Time Express," "The Space Coffin," "In the Year 8000," and "Platinum 'Planets'." Short stories could be expanded. *The Most Dangerous Game* came from a very short story, I suppose you know.

The SCIENCE FICTION LEAGUE is an amazing proposition! Maybe through it the fans can get together on their demands for films scientifictional

FORREST J. ACKERMAN.
San Francisco, Calif.

(Mr. Ackerman, now that he is one of the executive directors of the SCIENCE FICTION LEAGUE, will have a much greater opportunity to spread the gospel of science-fiction, which seems to be his heart's desire.

We are glad to see that you liked "The Brain-Eaters of Pluto"—the *scientifunnyarn*, as you call it. We thought it most amusing, also, though some of our readers had another opinion.

At the present time, after experimenting with dozens of artists, we have found that Paul and Winter do the most satisfactory art work, though Joe Schuster, in collaboration with Jerome Siegel, is now working on a science-fiction cartoon to appear in an early issue of WONDER STORIES.—EDITOR.)

The March Number

Editor, WONDER STORIES:

Just a word about the March WONDER STORIES.

A mighty fine cover. Well done, and pleasing colors. It is, I believe, one of the best ever to appear on WONDER.

All excellent stories. "The Exile of the Skies" was a really wonderful story, well written, absorbing, and extremely interesting, although the science was a bit hazy.

As to "The Brain-Eaters of Pluto"—such a title. The story was O.K.—a few of these humorous stories will pass. However—it certainly brought out the fact that many of our Science-fiction narrations are extremely doubtful. Good story, anyway.

The short transcript articles are fine. Do not neglect them. However, keep them as near to Stf. themes as possible.

The editorial this month was unusually interesting. These radio impulses received by some alien intelligence thousands of years hence would make an interesting plot. Few stories have discussed this theme to its fullest possibilities.

"Passing of the Planets—LUNA" was a bit of unusual poetry. This adds much to the magazine.

"Druso" should be an interesting narrative. All German ones are.

LEWIS F. TORRANCE,
Winfield, Kans.

(Here is another reader who likes "The Brain-Eaters of Pluto." The scientific news fillers that we use are as fantastic as possible. We only pick those that we know will interest the science-fiction fan. Some of them are as fantastic as our stories and show that truth is almost as strange as fiction, anyway.—EDITOR.)

He's All Ga-Ga

Editor, WONDER STORIES:

Geo. I'm all ga-ga over your latest issue of "our" magazine. It just hit the town and it's swell. I haven't had time to read it yet, but the cover is superexcellent. And wow! The stories are *grand*. (I didn't read them, but they still are the best I have read.) I rate the stories as follows (as the number by which they appeared):

No. 1 *Wonderful*
No. 2 Superexcellent
No. 3 Excellent
No. 4 Magnificent
No. 5 Fine
No. 6 I liked it

The illustrations for stories No. 1, 6, 4, 2, 5, and 3 were the best I have seen.

The paper your magazine is printed on is very nice. Let's have some more stories by authors X, A, C, M, P, and Q. I don't like the stories of author R and Q, but let's have some more of their stories and take them off the unemployed list.

The rough edge of the paper of the magazine is O.K. by me, or "all X," as I should say, and the type you use is very nice.

I have one very drastic change to make though, in the magazine, but I hope you won't think I'm too revolutionary. Maybe I shouldn't even mention it at all. Well, I want to express my opinion, no matter how radical it may be. I think the ink you use should be a little darker. Now please don't take back your good opinion of me, and think I'm a radical of some sort.

Well, I'll sign off hoping for more swell stories like yours.

WILLIAM PALMER,
Chicago, Ill.

P.S.—I would suggest that you make a plate of this letter and print it every month, and save space and time by omitting a couple of almost identical letters that you print every month.

(Though parts of your letter are not clear, for instance, just who authors "X, A, C, M, P, and Q" are, we can easily see that you are entirely pleased with our magazine—and that is our main consideration.—EDITOR.)

The April Stories

Editor, WONDER STORIES:

Having read the April issue of WONDER STORIES and seeing an improvement over several previous copies, I decided to write and tell you about it.

First the cover: it was a masterpiece, a great improvement over the March cover. Paul cannot be surpassed.

And now the stories: I enjoyed, first of all, "The Last Planet." This was a very thought-provoking story. Next came that little skit, "The End of the Universe." This story was very good. I liked the others in the following order: "The Moon Devils," "The Menace from Space," "The Land of Mighty Insects." The second part of "Xandulu" was also very good.

Poems are all right, but I don't think they belong in a magazine like yours.

This idea of a SCIENCE FICTION LEAGUE is good *if* it works out.

I am very glad to see the return of David H. Keller, M.D., with "The Doorbell." I enjoy his type of story very much. I am also looking anxiously ahead for "Druso," that German novel by Friedrich Freksa. If I enjoy this as well as I did "Interplanetary Bridges," it will be very good.

RAYMOND W. CLARK,
Akron, Ohio.

(We do not intend to feature poetry any more in the future, and will use fantastic poems only as fillers. Most of our readers like the short-short stories we present, though they are not easy to secure—good ones, we mean.

There is no doubt in our minds that the SCIENCE FICTION LEAGUE *will* work—in fact, it is working now, and there are really more enthusiastic fans than we had supposed there were. We hope that you will give the LEAGUE your full support, as hundreds of other fans are doing.

The LEAGUE is working because our readers want it to—and nothing can stop them.—EDITOR.)

Another "Take-it-Backer"

Editor, WONDER STORIES:

The main objective of this letter is to apologize for my previous missive which was published in the April issue. The reason that I was *so* strong at that time with my comparisons of SCIENCE WONDER and WONDER STORIES was because I was judging by the January issue which was the worst W.S. ever issued. However, the February, March, and April issues were really progressive. If I remember correctly, I stated that if W.S. ever raised itself to one-half the standard of the S.W., it would be a vast improvement. Well, I want to say that W.S. has made that improvement, and then some!

About the modern make-up—after giving the matter a few minutes' thought, I decided, that, as usual, you are right; that the modern make-up really does raise W.S. above the common news-stand trash. So—will you, and all my fellow readers, accept my apologies? I shamefacedly admit that I was "all wet."

A word or two about the April issue—the best since the change of size. The cover and the stories make a perfect issue. In fact, the only blot in the issue was my letter. After some consideration, I rate the stories thus:

(1) "The Menace From Space," Edwards
(2) "The Land of Mighty Insects," Stimson
(3) "The Moon Devils," Harris
(4) "The Last Planet," Starzl
(5) "The End of the Universe," Kalstaky.

Three cheers for your newcomer, John Edwards! And now three more for A. C. Stimson! However, there is a scientific error in "The Land of Mighty Insects" (?) I remember reading somewhere that insects breathe, not as humans, but through tiny pores (spiracles) and therefore consume a great deal more oxygen than a human (in proportion, of course). Thus, if they were increased in size, not only would their breathing organisms have difficulty in functioning, but they would consume all the oxygen there was with great rapidity. Will you please answer this, telling me whether I'm right or wrong?

And a word or two of praise for your best author—Laurence Manning. I have watched Mr. Manning's rapid rise with bated breath. He is a genius! His stories, Mr. Gernsback's editorials, and Paul's covers are naturally good. His stories ring with sincerity, reality, and, last but not least, good science. Whatever you do, don't lose Laurence Manning.

While I'm on the subject of authors, what has become of Dahl Juve, Stangland, Cobiente, Pratt, Hilliard, and von Hanstein? I hope to see them soon. Still, your new writers are good.

I was glad to note that there were no new artists in the April issue. Leave all the art work to Paul and Winter (and Marchioni).

What's wrong with using some new pages exclusively for reprints? Some good reprints by Flint, Hall, England, and others would be bound to go over big.

Well, I'll sign off now, eagerly anticipating "Druso" and the SCIENCE FICTION LEAGUE.

ALVIN H. LYBECK,
Hollis, N. Y.

(It is almost amusing: practically every one of our readers who declared that WONDER STORIES "ain't what she used to be" has retracted the statement after giving it careful consideration.

Concerning the insects in "The Land of Mighty Insects" in our April issue: Nature adapts life to its environment. She would not evolve a creature that could not breathe or that consumed all of the oxygen in the air. Gradually, as the creature evolved, its respiratory system would change to suit surrounding conditions and necessity. Therefore, we may assume that the giant insects at the pole were a bit more than magnified facsimilies of the familiar ones around us.

Mr. Manning is one of our most regular authors and we do not intend to lose him. He promises us several more stories in the "Stranger Club" series, which our readers have found well to their liking. This series started in our issue for last November, with "The Call of the Mech-men," followed so far by "Caverns of Horror" and "Voice of Atlantis."

We may settle the question of reprints some time this year to please all concerned.—EDITOR.)

The Stories Are Better

Editor, WONDER STORIES:

I would like to take this opportunity to tell you what a fine magazine you are putting out. I have read your magazine ever since it first appeared on the market. Some of the critics of your "mag" say it is degenerating from its old standard. I disagree, however; I think it is improving in every issue. Taken on the whole, the stories are much better now than the stories were before the editorial policy was changed. I liked the new size because it is much easier to handle. I do not believe it appears like a dime novel; Paul's illustrations take care of that. The plots are more original, interesting, and thought-provoking.

NEWBY CROWELL,
Monroe, N. C.

(There is very little comment we can make on this letter, except that it contains the sentiments of the majority of our readers. If everything you say about our magazine is true, then we have succeeded in improving WONDER STORIES.—EDITOR.)

From A Young Fan

Editor, WONDER STORIES:

I have long wanted to write to you, but I always found some excuse to put it off for some other time. Today, however, I resolved to write—so here I am. Let me tell you a true story that happened to me about six months ago before I begin to praise your marvelous magazine.

It happened in July last year. I was feeling lazy as I chatted with a friend on his porch. During the conversation, he happened to show me a magazine. It was a SCIENCE WONDER STORIES. I was uninterested because a few years back I started to read a similar one and I had been so swamped with technical details and mathematical calculations that I stopped in disgust and never read another one again. But feeling in a lazy mood, I glanced through the magazine and was attracted by the wonderful illustrations by Paul. I finally was persuaded to take it home and read it. I started—When I was through—Well—You can imagine!! I'm not through yet, though let me describe the cover. It showed an ocean on which floated a twisted, shattered green sphere. Above in the air was a similar green globe, its appearance reminding one of a spaceship, and plunging down directly at it came a yellow cylinder pointed at the end in front! Yes, you've guessed it. It was the first WONDER STORIES published! You actually have it illustrated on the contents page.

I just finished the March issue and it certainly hit the spot. Laurence Manning's "Caverns of Horror" was excellent. "Martian Madness" also was splendid. Dr. Keller surely gave us a new, refreshing type of story when he wrote "The Literary Corkscrew." I have not started Jack Williamson's new serial because I usually wait until all the parts are at my disposal. "The Brain-Eaters of Pluto" is a gem, for it broke the tension that is caused by reading too many scientific yarns. "Exile of the Skies" is simply a stupendous classic, it has enough plots in it to write a dozen stories. It certainly was written well.

"Children of the Ray" did credit to J. Harvey Haggard.

Though I have only been reading WONDER STORIES for about half a year, I have collected over three-quarters of the issues of SCIENCE WONDER STORIES of 1929 and 1930 and all but one issue of AMAZING WONDER STORIES. I compared the first magazines with the present ones and I found, in my estimation, that the first ones were much better in every way. However, it does not mean that WONDER STORIES is not ranking high; it is, but it can rank still higher.

Artist Paul cannot be beaten. His imagination is superb, his drawing supreme. Winter is good, but do not major him. He draws an illustration well with fine imagination and then draws another one that is well drawn but is uninteresting. The trouble with Paul's figures is that he draws them too perfectly. I have compared the old illustrations by Paul with the later ones and I am sure that I have found the reason why his drawings are poorer, so pass this on to him. His drawings are too dark! His illustrations are filled in too much with black and gray. If you would look back in your file, you would probably realize it.

I have a suggestion to make which I think every reader would like to see in effect. Why not each month have a half-page donated to a science-fiction author. You could give facts about his life, stories he has written, and other interesting facts. I'll bet your circulation will jump up and all the readers will become wide-awake and active. I realize that the authors might object, but then you could cut down on any personal facts. As for myself, I would cut them out and save them. Please, Mr. Editor, see if this is possible and put it up to the readers.

I'm going to stop now, for I think this letter is too long already. Watch for my letter every month, for my middle name—is Ackerman! I hope you don't faint when I tell you my age; I'm 15.

DAWN A. KYLE,
Monticello, N. Y.

(Many of our readers first came upon WONDER STORIES in much the same way you did. The first science-fiction stories we read always seem to hold special thrills.

Dr. Keller is back with us again and we have several of his excellent stories on hand which will be published in early issues of WONDER STORIES.

We will take your suggestion of the page for authors into serious consideration. Our magazine has always been susceptible to new ideas, as proven by the innovation of the SCIENCE FICTION LEAGUE.—EDITOR.)

Expert Criticism

Editor, WONDER STORIES:

In the January issue, two well-meaning gentlemen very gallantly rise in defense of WONDER STORIES, against my brutal attacks upon the aforesaid W. S. in general and upon the editors and their laxity in matters of the scientific aspect of the stories in particular. Since both speak of me in no uncertain terms, and terms that are, to say the least, derogatory, obloquious and obtrectatious, I must again invade these columns with sundry comments.

Mr. A. R. James remarks somewhat psychologically that I take pleasure in finding and complaining about scientific mistakes. If the gentleman could see me frothing at the mouth, tearing out my hair, and smashing the furniture each time I find a scientific error, he would quickly realize that he is wrong. However, perhaps my pleasure in locating errors is subconscious, in which case Mr. James is quite correct. That much I concede him.

As for Mr. Lutwin, this gentleman illogically bases his argument against me upon a fallacy, to wit: he speaks of "unappreciative readers." This argument is voided by the fallacy of *petitio principi*. Any good textbook of logic will tell you what that means, Mr. Lutwin. As for my being unappreciative, if that were true, I would not continue to read W. S. regularly without missing an issue. I was one of the original subscribers to *Science Wonder Stories* and have every

issue of W. S., the *Quarterly*, *Air Wonder Stories*, etc. Unappreciative? Nay, nay, as the horse would remark.

Having had some experience with magazines and having been to the offices of WONDER STORIES myself, I can assure Mr. Lutwin that I know just how busy the officers of W. S. are. But so much activity on the part of the staff signifies nothing unless it produces the desired result; a *science-fiction* magazine, not a *pseudo-science-fiction* magazine.

The reason I insist upon accuracy in the science of the stories is simply this: that WONDER STORIES, as its editors have repeatedly stated, is (supposed to be) an educative as well as a recreational periodical. W. S. is supposed to impart, pleasantly and painlessly, a knowledge of the fundamentals of the chief sciences. There was a time when it did so admirably. At present —well, you know what I said in the letter which caused this disturbance.

In the issue which carried that controversial epistle appeared "Through the Einstein Line," by J. Harvey Haggard. The scientific explanation on the last page of this story is an example of that to which I object. That scientific explanation wasn't scientific; it was incomprehensible, meaningless; it was gibberish in the guise of science. It is obvious that Haggard doesn't know what he is talking about. Now either he should have omitted the rot he put down or else he should have had the explanation correct.

To sum all this up, if WONDER STORIES is really educative, it cannot have scientific errors in the stories; if it persists in ignoring the butchering and mangling of scientific fact, it must cease this pretense of being educative!

Why, may I ask, cannot the editor in charge of the *Science Questions and Answers* detect and correct errors in the stories? He appears to possess an excellent knowledge of all the sciences.

Finally, let me congratulate the new managing editor. He is putting out an excellent magazine and if he can minimize the number of errors in science, he will bring W. S. back to the high position it once occupied in the science-fiction field.

MILTON KALETSKY,
Bronx, N. Y.

(We take a great pleasure in printing Mr. Kaletsky's letters, though they remind us somewhat of a teacher scolding one of her pupils, and they are always exact and thorough. We do not believe that you severely criticize us because you just like to find fault—rather that you are scientifically inclined and like your science-fiction with the accent on the *science*. You should accent the *fiction* now and then too, for most of our readers do not read the stories primarily for the science—the cold-fact science—that is in them, but for the thought-stimulating effect—the imaginative possibilities. While we try our hardest to get as many pure scientific facts into a story without making it dry, our primary purpose is to broaden the minds of our readers, as we have said repeatedly, to take skepticism out of their lives—that quality that made the farmer say, "There ain't no sech animal." Our stories are fantastic and alien—a relief from the monotony of cut-and-dried literature. Nowhere has the human mind as free a reign as in science-fiction. Please remember that there are several very good science magazines on the newsstands which you can read when you have an appetite for pure science. But when you want to give your imagination a free, though logical, rein, read WONDER STORIES. Great scientists read it as a relief from cold textbooks. Also, there is *enough* science in our stories to give a miniature scientific education.

Did you ever consider that it is sometimes easier to conceive a fact in science-fiction than in pure science? For instance, consider our recent story, "The Land of Mighty Insects," by A. C. Stimson. Don't you think that the story gives you a better view and a clearer insight in the lives of ants and termites, ant lions and other insects than do science textbooks which give you but straightforward information? Undoubtedly, our readers now have a better understanding of the habits of these creatures than they had before they read the story. This shows that science-fiction also *interprets* science so that the laymind can easily grasp its significance.—EDITOR.)

Narrow-Mindedness

Editor, WONDER STORIES:

Now and then I come across a story that entails the difficulties and tribulations of a scientist or inventor in securing recognition for some newly discovered invention or fact, which, even in these days of broadened vision and tolerant attitude toward even the most radical views, encounters stubborn resistance even to the point of violent opposition.

This resistance, however, is assuming more and more the characteristics of protests from "old fogies" in all branches of civil, industrial, and professional life, who, ensconced in responsible positions of phases of their particular line which are fast outgrowing their usefulness (such as military or governmental bureaucrats) are decrying such advancements that would be likely to render more obsolete their already dodo-like offices.

This obstruction to progress will be found in all occupations. Suggestions for the betterment of business are cried down by the old guard in business; army officials refuse blindly the attempts by far-sighted strategists to equip the army with new and more effective equipment; and so it goes.

Here is a case in point and one which might well be the basis for a plot for a science-fiction story.

My father is a doctor of the new liberal sort who are keeping their minds open to new ideas, even though they may conflict with the so-called "basic science laws" of medical doctrine. He has acquired a comparatively recently manufactured device which purports to diagnose and treat diseases through the agency of ether emanations. Its scope is miraculous, both physical and psychic. There is hardly an attribute or trait within the three-dimensional species we know as Man which this machine cannot probe and use.

One would think that with such a marvel at man's disposal, doctors would flock to see and to buy it. If the higher minds of medicine were so liberally disposed, this instrument would have a large demand. But such is not the case. Each prospective buyer is treated in a most unsalesmanlike manner. He is treated rather coldly when asking information concerning it; is given the "once-over" (on the machine!) and his merits and fitness as a mechanician are passed upon. "Stool pigeons" for the "Medical Trust" are quickly detected and discouraged. The efficacy of this instrument is proved when it was demonstrated that the patient treated need not be aware of it. Many of my father's closest acquaintances were experimented with and their particular cases successfully taken care of without their ever knowing it (which, you will agree, is just as well).

Perhaps some of your readers can cite other examples of intolerant treatment of facts and ideas, which, though constructive and not to be taken lightly, are nevertheless treated with derision and persecution. This sort of obstruction of progress to the civilization on which is the glory of the human race must be stopped or discouraged wherever possible. On the other hand, it might be well to counter that hair-brained ideas and half-baked formulas should be quickly and painlessly done away with.

I think that I have struck a new strain in bringing up the element of ferreting out and eliminating the undesirable meddling with progress by fear-possessed officials obsessed with the idea of preserving moth-eaten traditions, which even to this day survive as the heritage of Man *recalcitrant* to shift his lazy perspective to higher and loftier levels.

LELAND HOLT,
Oakland, Calif.

(One of the greatest curses in the civilized world is the narrow-mindedness of some people. Skepticism, unbelief, ridicule, and derision are the most serious hindrances to progress. There has never been a great accomplishment in the world that was not accompanied by the cynical sneers of pessimists. This has destroyed the faith of many would-be geniuses and discouraged them to stagnation. Only the man with courage and faith in his own dreams has come through with things revolutionary. When Alexander Graham Bell conceived the telephone, he offered several of his acquaintances large shares in the profits if they would finance him—but most of them called him crazy and his idea impossible and impractical. If they had been less narrow-minded and if they had had more foresight, they and their descendants would be multi-millionaires today. It is a great gift to be able to differentiate between the conceptions of a genius and the ideas of a crank.

Speaking of war—our personal opinion is that it is the only outstanding manifestation of the beast in man. We cannot be fully civilized until war is absolutely abolished in every shape and form—and we dare not hope for that within our lifetimes. —EDITOR.)

Praises for "Exile"

Editor, WONDER STORIES:

In reading your WONDER STORIES, I find "The Exile of the Skies" the most interesting and exciting one I have read in a long time. In this issue, March, is the conclusion of this story. I would like to make a request: namely, would you please ask the author, Richard Vaughan, to write a sequel to the story? I know that many of your readers would appreciate this very much because I feel sure that this was a very popular story with most, if not all, of your readers.

NORMAN H. BORDEN,
Swarthmore, Pa.

("Exile of the Skies" has made more of an impression on our readers than any serial has for years. If Mr. Vaughan favors us with a sequel, we shall be pleased to consider it for publication.—EDITOR.)

A Suffering Reader

Editor, WONDER STORIES:

My congratulations; I too hope that you keep up the pace you have set since your "new deal" which we readers received when the magazine's policy was changed.

This month's issue was slow in reaching the newsstands and I feared your experiment in better quality had cost me my favorite magazine. The only complaint is, the stories are so very interesting that work, play, and even meals suffer till WONDER STORIES has been read from cover to cover.

"The Spore Doom," and "The Exile of the Skies," get my vote this issue. The idea of being alone on an uninhabited world always intrigues my imagination, though not so much as adventures in time and dimensions. Some of your readers seem to think that authors should be limited to what is "possible." On closer examination they might realize that such a limitation would simply eliminate this whole realm of fancy, since either *anything* is possible, or nothing outside of our experience is.

There is one crying need in the space-ship engineer department, and that is a floor. Most of our craft either have the floor longitudinal, and rockets at each end, or are spheres which can accelerate in any direction. A few minutes' consideration will show that an acceleration straight up would give weight, comfort, and a feeling of security otherwise unobtainable. Provision for steering would be rockets mounted radially at the top or end toward which acceleration is directed. Stopping or slowing down is secured simply by reversing the craft, end for end. This design would prevent passengers from bouncing from one wall to the other as the ship is being maneuvered, as they would most certainly do, otherwise, unless strapped.

Accept my best wishes for a successful year.

G. C. KIMBROUGH, JR.
Memphis, Tenn.

(We are sorry that your work, play, and meals must suffer because of WONDER STORIES and hope that your sleep in not affected very much.

While we also believe that *anything* is possible, we try to keep our stories logical and convincing so that they appear to be possible to even a conservative mind, while they are at the same time utterly fantastic and imaginative.—EDITOR.)

Via Postcard

Editor, WONDER STORIES:

Congratulations for such novelty and quality of stories as you've given us for several months. Your magazine has personality.

JOHN PRATZKI,
St. Louis, Mo.

(Here is a short-*SHORT*-short communication from a reader with nothing in particular to say but who wishes to show his appreciation of our efforts. —EDITOR.)

From a Hobo Reader

Editor, WONDER STORIES:

The first copy which I read of your magazine was one which I found in a box car in Wyoming. It was a number published in the fall of 1932. I can't remember the date of the issue, but the story that struck me as the foremost was "The Venus Germ." The next copy of your magazine which I was lucky enough to read was found near a hobo jungle camp. It was the January, 1933, issue. Since then I've never been lucky enough to find any more copies, but have purchased many. I still believe every dime I've spent on WONDER STORIES has been well spent—believe it or not! [We'll believe it—EDITOR.] You can be well assured that there's one hobo among your readers that will continue to purchase WONDER STORIES.

Keep Paul and Winter on your art staff and for gosh sakes, let's have some of Wesso's work. Saaty is also good; let's have more from him. His illustration for "The Heat Destroyers" was *excellent*. Why not try to get a story illustrated sometime by the creators of Flash Gordon or Buck Rogers whose cartoons run in the Sunday papers? I appreciate art and like to see plenty and am an artist in a small way myself, for I have a cartooning diploma from the School of Applied Art.

By all means, keep J. Harvey Haggard among the authors. I don't believe he can write a poor story. "Evolution Satellite" and now "An Episode on Io" are A-plus in my grading.

Why do so many of the readers squawk for trimmed edges? Hasn't it ever sunk into their half-inch of solid ivory that they can trim them themselves if they don't like rough edges? Before even opening the magazine to see the contents, I take an old razor blade and trim off about an eighth of an inch on all three sides and presto!—my rough-edge trouble is solved!

The way some of your wise (?) readers write, they nearly expect you to deliver the mag to them in person, serving it to them on a silver platter trimmed in gold. Get out your razor blades, "stiffs," and give the editor a rest!

HENRY LEWIS, JR.,
La Roche, S. D.

(This letter should help prove that our magazine is not read by any one class of reader, but those in every walk of life. Watch for an important announcement concerning science-fiction cartoons. You have a very good method for doing away with rough edges. —EDITOR.)

Authors and Artists

Editor, WONDER STORIES:

I have now been reading WONDER STORIES for over twelve months, and I am writing to you to tell how much I enjoy your stories. I have also read several copies of two other American science-fiction magazines, but I can sincerely say yours is easily top-dog.

I am sorry to see that you have gone back to the smaller size, but I am very pleased to see that the length and quality of the stories has not suffered at all. Having gotten the above off my chest, I can now give you my opinion of your authors and stories.

In my opinion, Nathan Schachner is the best author you have. "The Revolt of the Scientists" series was great. More Schachner! The author I like best of all is Laurence Manning. "The Wreck of the Asteroid" was grand, only beaten by "The Man Who Awoke" series. Other authors I like are: Festus Pragnell, J. M. Walsh, Jack Williamson, Fletcher Pratt, R. F. Starzl, N. R. Jones, and Edmond Hamilton. I should also like to see the following authors in your pages: David H. Keller, M.D., Ray Cummings, Donald Wandrei, Sewell P. Wright, and Anthony Gilmore. One concluding word about authors: Give us plenty of the "Master Maniac," Epaminondas T. Snooks, D.T.G.

Although Paul is jolly good, I should certainly like a few pictures by Wesso in each issue.

In quite a number of your stories, there is far too little science. What is it that makes science-fiction distinct from other fiction? Science, of course. One would soon get tired of stories with impossible rays, etc., which have not the least semblance of scientific explanation. Therefore, more science in *many*, not all, of your stories.

If I keep on much longer, I suppose this will see the rays of your pocket disintegrating machine—so, best wishes to you, the mag, authors, readers, and especially Schachner and Manning.

M. R. HANSON,
Leicestershire, England.

(We try to keep our stories as scientific as possible without having them become boring to those of our readers who are not scientifically inclined. Let us hear from you again in the near future.—EDITOR.)

Paul "Rotten!"

Editor, WONDER STORIES:

When I started out to write this letter, I had about eighteen pages, and now it's down to this!

It's not proper to start a letter with a "brickbat," but I must—I must!

Maybe it's me; I don't know, but I don't see anything wonderful in Paul. As a matter of fact, I think he's *rotten!* Morey is *much* better! But if you want a *really good artist*, you should get the fellow that does the "Doc Savage" covers, he's swell!

So now you know what I think of the much-praised Paul!

The small size I detest!

In the January, 1934, issue (I think), in your heading for the story, "The Secret of the Microcosm," you state: "There are so many atoms in a molecule that if every atom was the size of a grain of sand, the molecules would be the size of the earth"! *Where* did you get that idea???

Why, the largest molecule known contains less than a hundred molecules!!!!

No doubt, this letter will cause much comment, but, that's the way I feel! Well, anyway, here's to a good mag, if it wasn't for Paul!

JOE HENNIMAN,
East Tawas, Mich.

As you say in your last paragraph, your letter will no doubt cause much comment.

In your seventh paragraph, we suppose that you mean the last word to be *atoms*. Perhaps our statement was exaggerated, but we used it mostly for emphasis and comparison. Your statement is incorrect. There *are* molecules containing more than 100 atoms. The Mail Report of the Science Service of Washington for November 10, 1932, states that Professor Clark has discovered that a molecule of insulin contains 35,000 atoms.—EDITOR.)

General Remarks

Editor, WONDER STORIES:

Since this is my first letter, I'm not going to throw many brickbats and get myself misunderstood.

The story by Chester D. Cuthbert was good, and the illustration was "swell." The impression of that lone figure breasting the fury of the elements is—well—powerful. Winter's illustration for "An Episode on Io" was also a good piece of art. In my estimation, he far excels Paul, whose drawings of men are frightful. I want to congratulate Paul, though, for his February cover.

Now for the stories "The Spore Doom" was a good story, but not very exciting. "The Vengeance of a Scientist" was very good. "An Episode on Io" was fair, but Haggard forgot all his science when he wrote it. If Kellor just poured the "Flesh" around the framework of bones, then how is it that the "thing" was able to breathe having no lungs? Also, if the thing had veins, it is only natural that it had a heart, but Haggard makes no mention of it, and having no heart, it needed neither lungs nor veins nor nostrils. Also, where did the eyes come from? "The Shot From the Sky" was short and sweet. So far, the story by Vaughan, "Exile of the Skies," is excellent

Why not print some more serials of which each part is a complete story in itself?

By the way, is J. Harvey Haggard a relation to H. Rider Haggard? Can you tell me where any of the latter's works may be purchased?

As for scientifilms, their numbers increase each year. I have recently seen "Deluge," "Son of Kong," and "The Invisible Man." "A Trip to Mars" will go into production in March, starring Boris Karloff.

For the past five years, our mag has been getting better and better. More power to you!

JACK MCCUSKER,
New York City.

(If you study "An Episode on Io" carefully, we believe that you will find evidence that the proper organs were created in the synthetic men. Also, some things must be taken for granted. You will notice that "Xandulu," by Jack Williamson, in three parts, is really composed of three separate books, such as the "Man Who Awoke" series, except that we published the three stories together as a serial. We do not believe that J. Harvey Haggard is any relation to the famous H. Rider Haggard. If he is, he might let us know about it. The works of H. Rider Haggard have been extensively published and can be secured through almost any well-known book-seller. —EDITOR.)

Our March Number

Editor, WONDER STORIES:

"The Exile of the Skies" is not only the best story ever printed in WONDER STORIES to date, but can also be classed as one of the greatest science-fiction stories ever written. Strange to say, it is written by an author whose name is new to science-fiction. Anyway, he deserves the highest rates that can possibly be paid him. This novel should be published in permanent book form. If no one else will do it, then why not the Gernsback Publications? It would be illustrated by Paul, of course. You should have given it a cover picture.

The first part of "Xandulu," by Jack Williamson is fine. It reminds me of "The Moon Pool." I'd like a sequel to "Caverns of Horror," by Laurence Manning. "Children of the Ray" I enjoyed.

Glad to see the return of Doctor Keller. "The Literary Corkscrew" was fine. I hope that we will see more stories like "The Conqueror," "The Human Termites," etc.

Is Kenneth Sterling, Epaminondas T. Snooks, D.T.G., by any chance? I thought I'd die before I finished the editor's remarks about the story.

All the illustrations, except the one for "Caverns of Horror," are good.

Keep the picture on the contents page. Here's a suggestion for that page. As it is, it is very crowded and messy-looking. By listing just the stories, the editorial, *The Reader Speaks*, and *Science Questions and Answers*, it would be much neater-looking. The information at the bottom of the page could be condensed so as to make more room. Why not have the titles in groups, as novelettes under the title *Novelettes*, short stories under the title *Short Stories*, and serials under the title *Serials*?

Please have WONDER STORIES mailed flat instead of folded. It will then arrive in better condition. A better grade of paper would be appreciated.

JACK DARROW,
Chicago, Ill.

(No, Kenneth Sterling is not Epaminondas T. Snooks, D.T.G., neither is he Groucho Marx. You offer several good suggestions, many of which are impossible or inadvisable at the present time. However, your letters are always welcome, as shown by the number of them that we publish.—EDITOR.)

Small Size Approved

Editor, WONDER STORIES:

You have certainly improved WONDER STORIES by changing it to the smaller size. It is much easier to carry and occupies less space when it is filed away. Everyone of the stories was excellent. The serial, "The Lunar Consul," which started in the November issue is the best story that has ever appeared in WONDER STORIES.

Paul is your best artist, but I was pleased to see some illustrations by Winter, Burian, and Saaty, because it is a change from Paul.

ROBERT W. MILLINGTON,
Sydney, Australia.

(This letter from distant Australia is more proof that our magazine is appreciated in all parts of the world. Opinion as to the small size is divided, but newsstand sales show that it is the most desirable. You will see more illustrations by Winter, in particular.—EDITOR.)

A Mrs. Reader

Editor, WONDER STORIES:

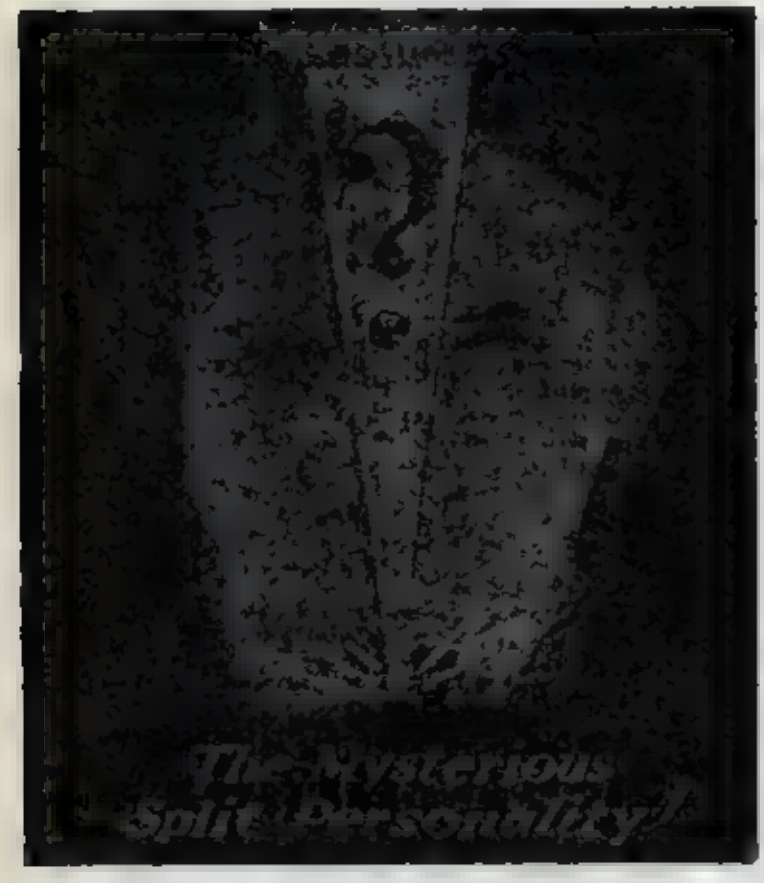
My husband brought home your magazine a few days ago. I have never been very much interested in the book, looked through it and just put it aside.

But here was something different. Two of the stories I liked and read through: "Children of the Ray" and "Caverns of Horror." The latter, written by Laurence Manning and so very awfully illustrated by Bulow, was most fascinating. And I will tell more of my friends about your magazine and wish you, the clever writers, and the illustrators all the best success in your efforts

MARIE F. TUCK,
Brooklyn, N. Y.

(We are always pleased to receive letters from members of the fair sex. Although they are greatly in the minority, they show real appreciation of our work and are faithful to the magazine.—EDITOR.)

(Continued on page 122)



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For hundreds of years men and women have talked with hushed voices about "STRANGE PEOPLE"—men who are not men—women who are not women. No one has ever *dared* to talk out in the open about it. Is it any wonder that the shocking, lurid facts of this great social evil are unknown to the great mass of men and women? Is it any wonder that strange nick-names are commonly used to describe these creatures.

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Can you distinguish these men and women of the Shadow World? Do you know that their number is constantly increasing? The strange power these men and women wield over normal people is almost unbelievable. Dr. Potter says, "NO MAN ON EARTH HAS A CHANCE AGAINST A WOMAN ONCE SHE HAS SUCCUMBED TO ANOTHER WOMAN." Actual clinical cases reveal the abnormal ties and the unnatural desires and erotic reactions of these twilight men and women! There are records that actually prove that men have been MADE INTO ABNORMALS. A startling, provocative indictment against the false modesty that has been responsible for the growth of these fantastic, strange amatory curiosities among savage and civilized races.

STRANGE LOVE

Dr Potter tells about the hidden, secret passions that dominate these women's exotic lives. He talks about the tragic duality of the effeminate man—half man—half woman. He delves deep into the ages—relates the bestialities and savageries practiced by the old Egyptians, Hindoos, Greeks, Assyrians and Romans—the sensuality that was ascribed even to the Greek Gods, to Zeus, Apollo, Hercules and Jupiter—the growth through history from ancient countries to France—to Germany—to its tremendous spread through the United States.

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Fearlessly, openly, the meaning of many misunderstood subjects is brought under the searchlight of truth. Sadism—Necrophilia—Phallic Worship—Sodomy—Pederasty—Tribadism—Sapphism—Uranism—the normal man and woman will refuse to believe that such abnormalities exist and have been practiced through the ages.

ASTONISHING DISCLOSURES ABOUT THE WORLD'S MOST FAMOUS MEN

How many of the famous men of history were considered "odd"? Socrates, Plato, Caesar, Virgil, Oscar Wilde, Leonardo da Vinci, Lord Byron, Tchaikowsky, the musician, Walt Whitman, the gentle, lovable poet, Napoleon—men and women of all kinds in all stages of life.

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for the benefit of our readers who wish to dispose of or secure science-fiction books and magazines.

We have found that many science-fiction enthusiasts wish to trade, buy, or sell material of this nature, but cannot afford to pay the 10c a word rate of our "Classified Advertisements" column.

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The advertising rates will be only 2c per word. Here is your opportunity to increase your science-fiction collection. Now you can secure those classics that you have been looking for so long in vain—or dispose of them to others if you wish to put them on sale.

There will be three divisions of

The SCIENCE-FICTION SWAP COLUMN

—one entitled "FOR SALE," the second, "EXCHANGE," and the third, "WANTED." Take advantage of these three departments. Now that you can place an advertisement for only 2c per word, you cannot afford to miss the opportunities that are awaiting you. Cash must accompany all orders. No discounts. Advertisements to appear in the July issue must be in our hands no later than May fourth. Every group of letters, including the initials in the name and address, will count as one word.

Send all advertisements to

WONDER STORIES

Swap Editor

96-98 Park Place, New York, N. Y.

SCIENCE QUESTIONS AND ANSWERS

(Continued from page 118)

In other words, you can only get something from something, and nothing from nothing

If you can explain more fully your stand or have any new findings, please let me know.

OSCAR LEE,
Los Angeles, Calif.

(The mind of man cannot imagine anything "infinite." We can say the word, but it is impossible to comprehend it. Everything we know or can conceive has a definite beginning and end. To say that the universe has always been sounds ridiculous to us; yet if we say that it had a beginning, we immediately wonder what came before—and, of course, if something came before any event, then that event was not the beginning. Of course, we can say that our universe had a beginning, if we allow that it came from something else—something greater.

Classical science said that "nothing is lost"—where something loses, something else gains—the universal energy remains constant. Now some of the moderns declare that the universe is running down; that in the far future, everything will have disappeared—"something" will become "nothing." Take your choice, whichever seems the most logical to your particular mental make-up. None of these theories can be proved or disproved.—EDITOR.)

Our Unbounded Finite Universe

Editor, SCIENCE QUESTIONS AND ANSWERS:

I am going to give a talk in the astronomy club in school about the beginning of the universe. It would be a great help to me if you would answer these questions which have puzzled me very much.

Has the universe been going on since infinity, or did it begin at a certain time? If it did begin, what was there before? You can't make something from nothing. Doesn't this tend to show that the universe has been going on forever, even though we cannot imagine it?

Please elaborate on the question of a finite space. How can space be finite and yet unbounded?

MILTON ROTHMAN,
Philadelphia, Pa.

(For the answer to the first part of your letter, we refer you to the preceding letter. The most logical reasoning seems to be that there never was a beginning; though our minds, as you say, cannot imagine such a state of affairs. The limit is not to eternity, but to our comprehension.

Einstein's "finite space" must be unbounded, because everything with a boundary has something else beyond. It is finite in the sense that you could never reach the end, and that you would, necessarily, return to your starting point if you traveled in a "straight" line for an enormous length of time.—EDITOR.)

THE READER SPEAKS

(Continued from page 120)

He Takes It Back

Editor, WONDER STORIES:

I take back everything I said in my letter about the January issue. I'm sorry you even printed it. I didn't think you would.

There must have been something wrong with me when I read that issue, to think such things. When I read it again, I changed my mind quickly, you may be sure.

I noticed something strange when I got my February issue. When I started to read the second part of "The Exile of the Skies," I found that I couldn't remember a single thing about the first part. Maybe that explains my strange thoughts about the January issue

"The Exile of the Skies" is just the thing I have been asking for! Was that a story! Who wants E. E.

Smith or J. W. Campbell now? Give me Richard Vaughan! I can stand a few more stories about Knute Savary and I suppose the other readers can, too.

If "The Brain-Eaters of Pluto" is supposed to be a substitute for E. T. Snooks, I'll take Snooks. That story was actually putrid! The only redeeming features of it were the introduction (I wonder who wrote it), the definition of inertia, the Martian national anthem, and Paul's illustration. (Did Paul think that one up himself?) That definition of inertia gave the real author away. Forrest J. Ackerman! Come out from behind that *Nom-de-plume*.

I want to complain about the interior illustrations. I don't know whether it is the fault of the artist or the printer, but they are terribly dark, especially the one for "Caverns of Horror." I could hardly make out the details. I hope you will correct this condition in the future.

About a month ago, I had the best time of my life. I went to a lecture at the Academy of Natural Science given by Dr. Clyde Fisher on the subject, "Is there life on Mars?" (Look at everybody get green with jealousy.) That Doctor Fisher is a man after my own heart. He didn't say so much actually about life on Mars, but what he did say was plenty. He could have said more, but I guess he was afraid of being too "radical."

MILTON S. ROTHMAN,
Philadelphia, Pa.

(We are glad that you have reconsidered our January issue and found your first comment ill-founded. After all, your state of mind has a lot to do with the enjoyment you get out of our magazine, or any other magazine for that matter. If you have something of great current importance on your mind—some uncertain event that is about to culminate, for instance—you will very likely absently revert to it mentally and read a story or part of a story without any conscious thought about it, so that it is a brand new story when you reread it. This happens to everyone.

The author of "The Brain-Eaters of Pluto" was Kenneth Sterling—a separate individual and neither Doctor (?) Snooks nor Forrest J. Ackerman. We printed the story as an experiment. We had never printed anything quite like it before and had not the slightest idea whether it would be favorably accepted or condemned. At present, the comment seems to lean toward the latter. If the experiment fails, as it now appears, we will not give you any more stories of this type.

Of course, the illustration for "Caverns of Horror" had to be very dark, for the scene is in a pitch-black cavern under the earth.

We'll bet that many science-fiction fans envy your attendance at the lecture on life on Mars by Doctor Fisher.—EDITOR.)

Our March Issue

Editor, WONDER STORIES:

I have just finished your March issue, and even though I have been a persistent reader of WONDER STORIES for five years, I really believe that the March issue is the *best*.

"The Exile of the Skies," by Richard Vaughan is the most stupendous thrill-raising story I have ever read in WONDER STORIES. I can hardly find words to describe my feelings as to this story. We are also given a wonderful lot of theory to think upon. I enjoyed every word of it. Let's have more by Vaughan.

"The Literary Corkscrew" was very good. I sometimes think and wonder why some authors are so very great and others are "rotten." This story opens our minds as to why this might be.

"Cavarns of Horror" struck me as being just a little supernatural. I didn't think much of it. I think Manning did a great deal better with "The Call of the Mech-men."

"Martian Madness" was very good.

"Children of the Ray" was the best short story in the issue. Mr. Haggard certainly knows how to get his heroes into surprising difficulties and then get them out alive. More power to him.

"Xandulu" has a very nice start; I can't tell you how I like it until I read it all.

I don't know whether the editor will appreciate this or not. I have all but a few of his editions dating

(Continued on page 124)

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If you wish to recover from your illness—no matter what it may be called—first get rid of the abnormal accumulation of your colon and keep your bowels continually in a good, clean condition. This cannot be done by the use of cathartics and many of the laxatives advertised to cure constipation.
NERVOUSNESS
Medical authorities agree that most cases of constipation arise from overeating and improper diet. Nervousness, caused by worry, is a contributing factor. Improper diet and worry are the inevitable products of financial depressions. It is true that it is difficult to maintain a balanced diet and wear a cheery smile with an empty pocketbook. But you should be able to keep your system free of the poisons that generate there due to constipation.
CONSTIPATION
The most formidable enemy of human health is constipation. It is the source of innumerable cases of ill health the nature of which is generally not suspected. In many cases these illnesses can be cured or alleviated if your system can be properly cleaned of the waste matter that accumulates in the intestines.
MILLERTONE
Nothing you have ever before used will give you such astonishing results as Nature's virgin herbs. Millertone is a harmless herb compound, the most efficient stomach and bowels cleanser known. Millertone is not "a cure-all diseases" product but it will put your system in condition to ward off the onslaught of the dreaded diseases that are the aftermath of constipation. Be convinced by writing today for a generous sample of this wonderful product of Nature. It is yours for the asking. Enclose 3-cent stamp, please.
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THE READER SPEAKS

(Continued from page 123)

from the time he used to edit *Science and Invention*. How's that for a record?

J. R. WRIGHT,
Dewey, Okla.

(Letters like yours direct us in chosing future stories for the magazine; they let us know the type of stories that our readers like and help us to better the publication. We published "Caverns of Horror" because we have learned that many of our readers enjoy a science-fiction story with a weird background ones in a while.—EDITOR.)

"Colossal—Stupendous"

Editor, WONDER STORIES:

WONDER STORIES, colossal, great, grand, stupendous. I can't begin to describe it. Mr. Editor, did it ever occur to you that "our" mag has been increasing in quality as well as quantity? The stories are perfect, the layout excellent. I just want those readers to know this: I mean those that always fuss about Paul's men, reprints, stories, etc. I would like to know what is the matter with Paul's men? Paul is the greatest artist in scientifiction, and I don't mean perhaps!

I like the quality of the paper, but I don't care for the rough edges; but what's a couple of rough pages among friends?

My favorite author is a great favorite with the rest of our "dear" readers—Stanton A. Coblentz. Then comes Edmond Hamilton—he's great; and, oh boy, next comes Clark Ashton Smith. He positively drips with genius. WONDER STORIES has a perfect staff of writers.

That story, "The Exile of the Skies," is certainly a peach. I can hardly wait for the last part. Here is my list of favorite stories in the recent issues:

1. "Moon Plague."
2. "Evolution Satellite."
3. "The Lunar Consul."
4. "The Tomb From Beyond."
5. "The Man With the X-Ray Eyes."
6. "An Episode on Io."
7. "The Vengeance of a Scientist."
8. "The Spore Doom."

I did not like one of your stories, "The Heat Destroyers." Maybe it was because I couldn't understand it, but it wasn't bad. I guess I'm too dumb.

This letter is so far full of roses and orchids, but I'm going to toss a piece of garlic. Why do you have to take up all of Paul's beautiful cover drawings with such an inartistic arrangement of the great name of WONDER STORIES? Can't you make it so it will blend with Paul's design, or somethin'?

One last plea—please, *please bring back the Quarterly*.

ROY E. HUNT,
San Francisco, Calif.

(Here is a very pleasing letter from one of our younger readers. We know that WONDER STORIES is not colossal nor stupendous, but we are flattered to have you think so. Several of your favorite stories have been acclaimed the best by our readers. We believe that the present arrangement of our title on the cover is most attractive and any change would surely be for the worse.—EDITOR.)

"Hare" Pocket Size

Editor, WONDER STORIES:

Many book-lovers in England, when buying a suit, have a special "hare" pocket made inside the coat, to carry a book.

The new smaller size of WONDER STORIES fits this pocket without folding; the other size did not.

If every reader who complains had a reason for that complaint, it might carry some weight.

We read of condemnations of time-traveling, the fourth dimension, and so on *ad infinitum*, but do people really buy WONDER STORIES for textbooks or good entertainment?

After all, the hero who chases the villian into the year 2001 is no more impossible than the one who single-handed overcomes a gang of armed men.

We know that it is impossible to move back in time (physically, at any rate) for:

"Not even God Himself o'er the past has pow'r."
—yet these tales form some of the best in the world.

A plausible explanation is to my mind, a sincere effort on the part of the author to get the reader in the best atmosphere to enjoy the main story. It is the mark of the careful craftsman, not an attempt to hoodwink.

As far as that goes—how many decent fellows are there who have wished to be able to take a few pals with modern weapons and go back for a short time to wipe out the cruelties of the Roman Arenas or the Spanish Inquisition?

When we scoff at the fourth dimension, we forget that there are five which we really can appreciate.

If we put a cubic square foot of ice in a room, it will be one foot long, one foot wide, and one foot thick, at *freezing point only*. There is a fourth measurable dimension. Now put the block in a room slightly warmer. The three normal dimensions will alter as time proceeds. Therefore, we can only say that it is of a given size, at a given temperature (and one with any variation from freezing point) at a given time.

I am glad that you have not been prevailed upon to reprint old stories. If a tale is good, it is worth saving. If it has not been read, it is worth trying to get. The writer once tried for three years before he got one particular story; other *good* books have been in the family for over 100 years.

The whole outlook depends on whether one is a reader or a grouser, and wouldn't it be monotonous if we all liked the same things?

W. G. HUCKLIN.
Manchester, England.

(We always approach letters from England with pleasurable anticipation, for they invariably prove to be well worth reading and publishing. For the most part, they are very logical and interesting. In this country, WONDER STORIES is also in a convenient size, for it fits easily into the pockets of American suits and can be easily read in subways, where the smaller the magazine, the better for all concerned. Your explanation of the fourth dimension is not a new one and is generally accepted by many scientists in this country.—EDITOR.)

"Something Is Lacking"

Editor, WONDER STORIES:

I heartily agree with Mr. Rothman in his statement that "something is lacking" in the present issues of WONDER STORIES. As I type, I have before me a copy of *Science Wonder Stories*. Do you remember the days of real scientifiction, not merely blood-and-thunder tales? Those were the days when a science fiction story lived up to its name—"The Metal World," by Repp, "Into the Subconscious," by Myers, "The Human Termites," by Doctor Keller. There were names to conjure with—stories that would make some of you new fans "weep with joy"!

Naturally, the depression has taken its toll—nothing has been left untouched. However, I should think that even the cost of improving the present WONDER STORIES would be trifling in return for the many new readers which you would acquire. Don't skimp on reading matter by reducing the size and using valuable space for unnecessary things, and above all, get some real "meaty" science stories, not merely the "another-Martian-bit-the-dust" type which we are fed today. Remember the "Old Guard" die hard!

DAVID LISSERMAN,
Brooklyn, N. Y.

(Many of our readers, like yourself, believed that science-fiction was on the wane—until we installed our new policy. Just take the last six or seven issues of WONDER STORIES—compare them with the first half-dozen *Science Wonders*—compare them with the 1933 issues. Study them carefully. Now, don't you think that there has been a turn for the better? What you call the "another-Martian-bit-the-dust" type of story is submitted to us daily—and everyone of them is now turned down. Read "Our New Policy" in our

(Continued on page 134)

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LIST OF PLATES

Plate	I.	Nude Adult Female
"	II.	Nude Adult Male
"	III.	Nervous System of Female
"	IV.	Skeletal System
"	V.	Muscular System (Posterior)
"	VI.	Muscular System (Anterior)
"	VII.	Vascular System
"	VIII.	Respiratory System
"	IX.	Digestive System
"	X.	Male Genital Organs in Detail
"	XI.	Female Genital Organs in Detail
"	XII.	Cross-Section of Pregnant Female Body with Child.

All plates (one foot high) are printed in actual natural colors.

Thus far, plates such as those presented here have been so high in price as to be inaccessible to the public. Our plan in producing these charts is to make them available to every adult person.

The book is 14 inches high and 8½ inches wide, contains twelve full-page color plates and twelve text pages illustrated with fifty photographs and drawings, made from actual photographs, and all organs and parts of the human body—male and female—are shown in great detail in natural colors.

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THE READER SPEAKS

(Continued from page 185)

January issue and see if you don't think that we are living up to it. The hackneyed story, which you condemn, is now being carefully avoided by us. We are planning a reprint ANNUAL containing the best stories published during the first year in the life of *Science Wonder Stories*.—EDITOR.)

SEXOLOGY

THE MAGAZINE OF SEX SCIENCE

SEXOLOGY, foremost educational sex magazine, is written in simple language and can be read by every member of the family. It is instructive, enlightening—not a risque book containing no jargon. Devoted to Science of Health Hygiene.

Contains 25 important articles on Sex Science, 68 pages, with a tractive two-color cover. Here are a few of the more important articles.

Editorial—"Sex Sins"; Children with Tails (Illustrated). Sexual "Degressants"; Foreign Bodies in the Vagina (Illustrated). Borrowing a Father for a Baby, Sterilization of Men and Women (Illustrated). Inheritance of Disease. Men Who Are Not Men (Illustrated). Contraceptives and Science (Illustrated). Birth Customs of Savages (Illustrated). The Awakening of Sexual Life (Illustrated); Signs of Previous Pregnancy; A Rabbit with Two Mothers; Your Unborn Child (Illustrated). All About Your Glands (Illustrated). Impotence in Young Men; A Mother at Twelve (Illustrated); Scientific Sex Notes; Questions and Answers.

Get a copy of SEXOLOGY on any newsstand, or if your dealer cannot supply you, send 25c in stamps for a copy of the current issue.

SEXOLOGY 247 West Broadway New York, N. Y.

HIGH BLOOD PRESSURE

Quick Relief, or You Only Pay When Satisfied

If you suffer from High Blood pressure, dizziness, ringing in the ears, can't sleep at night, feel weak and shaky, bad taste, nervous. If your heart pounds and you fear a paralytic stroke, let me demonstrate Dr. Hayes prescription we will send you postpaid, a regular $1 treatment on absolutely FREE TRIAL. While it is non-specific, many cases report remarkably quick relief, often symptoms diminish and normal sleep returns within 3 days. Contains no salts, physics, opiates or dope. Safe with any diet. PAY NOTHING UNLESS GREATLY IMPROVED. Then send $1. If not your report cancels the charge. Write Dr. Hayes Ass'n, 6820 Coates, Kansas City, Mo.

A Baby For You?

If you are denied the blessing of a baby all your own and yearn for a baby's arms and a baby's smile do not give up hope. Just write in confidence to Mrs. Mildred Owens, 6403 Coates House, Kansas City, Mo., and she will tell you about a simple home method that helped her after being denied 15 yrs. Many others say this has helped bless their lives. Write now and try for this wonderful happiness.

CLASSIFIED ADVERTISEMENTS

Advertisements in this section are inserted at the cost of ten cents per word for each insertion—name, initial and address each count as one word. Cash should accompany all classified advertisements unless placed by a recognized advertising agency. No less than ten words are accepted. Advertising for July, 1934, issue should be received not later than May 4.

SONGWRITERS

SONGWRITERS! Poems, melodies. Amazing opportunity. Hibbeler, D153X, 2104 Keystone, Chicago.

MISCELLANEOUS

CURIOUS, Occult Books, Magic, Herbs, Novelties, Necessities. 132-page Catalog 10c. Morelle, 159-NK State, Chicago.

He Hates Whiskey Now

An Odorless and Tasteless Treatment Did It

Any lady can give it secretly at home in tea, coffee or food, and it costs nothing to try! If you have a husband, son, brother, father or friend who is a victim of whiskey, beer or wine, send your name and address to Dr. J. W. Haines Co., 897 Glenn Bldg., Cincinnati, Ohio, and they will send you absolutely free, in plain wrapper, a trial package of this wonderful treatment. What it has done for others is an example of what it should do for you when used as directed. Write today and be thankful all your life.

Good News for Members of the
SCIENCE FICTION LEAGUE

THE following list of essentials has been prepared for members of the SCIENCE FICTION LEAGUE by the officers at Headquarters.

A FEW WORDS AS TO THE PURPOSE OF THE LEAGUE

The SCIENCE FICTION LEAGUE was founded in February, 1934. The Executive Directors are as follows:

Forrest J. Ackerman, Eando Binder, Jack Darrow, Edmond Hamilton, David H. Keller, M.D., P. Schuyler Miller, Clark Ashton Smith, and R. F. Starzl. Hugo Gernsback, Executive Secretary, Charles D. Hornig, Assistant Secretary.

The SCIENCE FICTION LEAGUE is a membership organization for the promotion of science fiction. There are no dues, no fees, no initiations, in connection with the LEAGUE. No one makes any money from it; no one derives any salary. The only income which the LEAGUE has is from its membership essentials. A pamphlet setting forth the LEAGUE'S numerous aspirations and purposes will be sent to anyone on receipt of a 3c stamp to cover postage.

One of the purposes of the SCIENCE FICTION LEAGUE is to enhance the popularity of science fiction, to increase the number of its loyal followers by converting potential advocates to the cause. To this end, the SCIENCE FICTION LEAGUE supplies members with membership letterheads, envelopes, lapel buttons, and other essentials. As soon as you are enrolled as a member, a beautiful certificate with the LEAGUE'S seal will be sent to you, providing 15c in stamps or coin is sent for mailing and handling charges. However, this will be given free to all those enrolled members who find it possible to call personally at Headquarters for it.

Another consideration which greatly benefits members is that they are entitled to preferential discounts when buying science fiction books from numerous firms who have agreed to allow lower prices to all SCIENCE FICTION LEAGUE members. The book publishers realize that, the more fervid fans there are to boost science fiction, the more business will result therefrom; and a goodly portion of the publishing business is willing, for this reason, to assist SCIENCE FICTION LEAGUE members in increasing their science fiction collections by securing the latest books of this type at discounted prices.

SCIENCE FICTION ESSENTIALS LISTED HERE SOLD ONLY TO SCIENCE FICTION LEAGUE MEMBERS

All the essentials listed on this page are never sold to outsiders. They cannot be bought by anyone unless he has already enrolled as one of the members of the SCIENCE FICTION LEAGUE or signs the blank on this page (which automatically enrolls him as a member, always provided that he is a science fiction enthusiast).

If, therefore, you order any of the science fiction essentials without filling out the blank, or a facsimile (unless you are already enrolled as a LEAGUE member), your money will be returned to you.

Inasmuch as the LEAGUE is international, it makes no difference whether you are a citizen of the United States or any other country. The LEAGUE is open to all.

LEAGUE LETTERHEADS

A beautiful letterhead has been especially designed for members' correspondence. It is the official letterhead for all members of the LEAGUE and is invaluable when it becomes necessary to correspond with other members or with Headquarters.

A—SCIENCE FICTION LEAGUE letterheads, per 100.....Prepaid 50c

LEAGUE ENVELOPES

So that letters mailed to members of the LEAGUE can be immediately recognized, special envelopes that harmonize with the letterheads have been printed.

B—SCIENCE FICTION LEAGUE envelopes, per 100.....Prepaid 50c

LEAGUE SEALS

These seals, or stickers, are printed in three colors and measure 1¼" in diameter, and are gummed on one side. They are used by members to affix to stationery, letterheads, envelopes, postal cards and the like. The seals signify that you are a member of the SCIENCE FICTION LEAGUE. Sold in lots of 25's or multiples thereof.

C—SCIENCE FICTION LEAGUE seals, per 25.....Prepaid 15c

LEAGUE LAPEL BUTTON

This beautiful button is made in hard enamel in four colors—red, white, blue and gold. It measures ¾" in diameter. By wearing this button, other members will recognize you. Many friends will perhaps also want to join the LEAGUE. The button must be seen to be appreciated.

D—SCIENCE FICTION LEAGUE lapel button .....Prepaid 35c

DD—SCIENCE FICTION LEAGUE lapel button, like the one described above, but in solid gold.....Prepaid $2.50

A—50c per 100

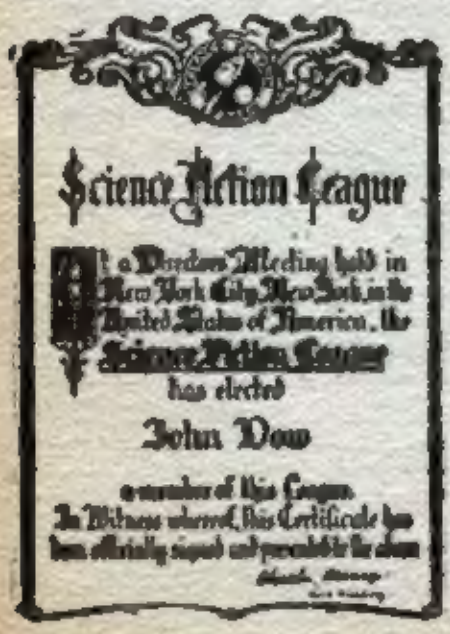
B—50c per 100

C—15c for 25

D—35c each

If you do not wish to mutilate this magazine, any number of applications will be supplied upon request.

SCIENCE FICTION LEAGUE, 96-98 Park Place, New York, N. Y.


Science Fiction League
At a Directors Meeting held in New York City, New York, in the United States of America, the Science Fiction League has elected
John Doe
a member of this League.
In Witness whereof, this Certificate has been officially signed and provided the seal

FREE CERTIFICATE

To the left is an illustration of the certificate provided all members of the SCIENCE FICTION LEAGUE. It is sent to all members upon receipt of 15c in stamps to cover mail charges.

WONDER STORIES is the voice of the SCIENCE FICTION LEAGUE—a monthly department appears in the magazine.

Application for Membership
SCIENCE FICTION LEAGUE

SCIENCE FICTION LEAGUE, 96-98 Park Place, New York, N. Y.

I, the undersigned, herewith desire to apply for membership in the SCIENCE FICTION LEAGUE. In joining the LEAGUE, I understand that I am not assessed for membership and that there are no dues and no fees of any kind. I pledge myself to abide by all the rules and regulations of the SCIENCE FICTION LEAGUE, which rules you are to send me on receipt of this application.

I belong to the following class (put an X in correct space): ( ) Professional; ( ) Business; ( ) Student; ( ) ..... (Please print information)

Name.....Age.....

Address.....

City and State.....

Country.....Date.....

I enclose 15c, for postage and handling, for my Membership Certificate.

SCIENCE FICTION LEAGUE, 96-98 Park Place, New York, N. Y.
Gentlemen:

[ ] I am already enrolled in the SCIENCE FICTION LEAGUE.
[ ] I am a new member and attach my application to this coupon.

Please send me the following SCIENCE FICTION LEAGUE essentials listed in this advertisement: (Please print information)

.....

.....

.....

for which I enclose $..... herewith.

(The LEAGUE accepts money orders, cash or new U. S. stamps in any denomination. Register cash or stamps.)

Name.....

Address.....

City.....State.....WS-634

WONDER STORIES *are everywhere*—
If you know where to find them!

BELIEVE It Or Not, real wonder stories are going on day and night, and right now, more wonder stories are happening all around you than you will find in the pages of this magazine.

While you are reading this, music, speech, talk, which originated perhaps 12,000 miles away from where you are, is vibrating in your body, only you don't know it.

But the short wave fraternity all over the world knows this, and for a few paltry dollars they rig up in their own homes a short wave set which brings in stations from the Antipodes. Such sets cost as low as $7.20, believe it or not. So if you are looking for real wonder stories, they are in the making right along.

How can you listen to Sydney, Australia; to Berlin, to Moscow, London, day in and day out, at practically no cost at all? Just get the catalog, which is a veritable encyclopedia of facts, described below, and you will be writing your own wonder stories.

Here are a few samples of actual wonder stories told by actual listeners:

HOW IT WORKS!

I have constructed the OSCILLODYNE RECEIVER and boy! how it works!

The first day without any trouble I received Spain, England, France, and other foreign countries. Amateurs! why I never knew there were that many until now. With the one tube Oscillodyne, I bring in more stations on one plug-in coil than with a set of coils on different short wave sets.

IF ANY ONE IS TRYING HIS LUCK ON SHORT WAVE SETS, IT WILL BE WORTH WHILE TO CONSTRUCT THE ONE TUBE OSCILLODYNE.

PAUL KORNEKER, JR. N. S.
Pittsburgh, Pa.

FOREIGN STATIONS GALORE

It may interest you to know that yesterday, on my Doerle short wave set at 13:45 P.S.T., I heard OFH at Rio de Janeiro. They came in at 19420 Kc. and the announcing voice was as clear and strong as on an ordinary telephone.

I am using just 45 volts for both detector and audio stage on the plate. What it would do on 90 volts on the audio I do not venture to say.

At the moment 10.35 P.S.T., I am listening to phone from Japan to Hawaii. No station identification however. Around 16,000 K.C.S. KKD—Kauhuku Hawaii just identified his station.

HARRY V. DAVIS.
Penticton, B.C., Canada.

THE WHOLE WORLD

In the past two days I brought in with my Oscillodyne S-W Set the following foreign stations: 12RO, DOC (this with such volume that I was able to plug in the loudspeaker) and a French station which I was unable to identify, but I believe it to be FYA Pontoise, and also another German station which I have not been able to identify as yet.

On Wednesday HAQ was weak and noisy and DJC was loud and clear but on Thursday the conditions were reversed. I have received many United States stations, such as WIAA, WEEI, WABC, WIXK, etc., etc.

In Short Wave Craft, this set was called A WONDER SET, and I certainly agree.

C. W. KNIERIM.
Hollis, L. I., New York.

Remember, you do not have to be a technician to receive stations from all over the world these days. We have solved all the technical trouble for you. Anyone can do it, and the cost is amazingly low.

FREE NEW CATALOG . . .

1934 Edition

RADIO AND SHORT WAVE TREATISE

108 Pages • Over 100 Hook-ups
More than 1500 Illustrations

A VERITABLE TEXT BOOK ON RADIO

NOT JUST ANOTHER CATALOG

Every time a new edition of our RADIO AND SHORT WAVE TREATISE comes off the press it is an event—an event of importance to tens of thousands of our customers and friends who have been receiving them regularly for many years. YOU TOO WILL FIND IT INDISPENSABLE.

This completely revised and enlarged 1934 edition contains 108 solid pages of useful radio information, diagrams, illustrations, radio kinks and real live radio merchandise. It contains more valuable radio information—more real live "meat"—than many textbooks on the subject. As usual considerable space has been devoted to the beginner in radio. Chapter Two of the series of articles titled "Fundamental Principles of Radio for the Beginner," aside from being a fine grounding in the theory of radio for new fans, offers an excellent review to old timers.

If you have received copies of our previous editions, you are familiar with the type of book we publish—but this new edition WHAT A BOOK!

PARTIAL LIST OF CONTENTS

Chapter Two of "Fundamental Principles of Radio for the Beginner"—The New Tubes, Their Uses, and Their Fundamental Circuits—How to Make Money with Public Address Systems. How to Install and Maintain Them—How to Revamp Six-Volt Battery Sets to Use Two-Volt Tubes—Prize Winning Kinks and Short Cuts in Radio—How to Build the "R T" Beginner's Transmitter—How to Build the Famous Twinplex Short Wave Receiver—How to Construct an Amateur Radio Transmitter—A Most Modern and Complete Tube Chart Including Socket Connections for all Tubes—Numerous Free Offers, etc., etc.

WRITE TODAY Enclose 5c coin or U. S. Postage. Treatise sent by return mail. Print name & address clearly on request.

RADIO TRADING COMPANY 104-B PARK PLACE NEW YORK, N. Y.

Man Can Now Use Strange

INNER POWER

Revealed by New World Teacher

Yogi Alpha, internationally known Psychologist and Philosopher and acclaimed New World Teacher, is bringing Health, Happiness and Financial Success to Thousands by his Startling Revelations that:

—it is easier to succeed than it is to fail.

—hard work will never bring you success. It is far easier to progress and realize your wishes when you don't use a great deal of conscious effort.

—there is an Inner Power within every one so dynamic and forceful that it can carry you on to complete happiness, health and financial success almost overnight.

—a correct understanding of this Inner Power can bring you a more perfect and beautiful body, and give you an attractive and magnetic personality.

—all of the great teachers and prophets of the past have consciously or unconsciously used a strange power within themselves to aid them in their wonderful works and so-called miracles.

YOGI ALPHA

Internationally known Psychologist, Philosopher and Metaphysician, President Y. A. Psychology League; Editor "Psychic Digest," America's newest Psychology magazine; Founder of "Psycho-Logic," acclaimed a new world teaching

—a correct understanding of this mighty power can enable you to duplicate the feats of any great teacher that has ever lived.

—the world itself, and all the laws of the universe depend upon Mind for their existence, and a proper understanding of the laws of Mind will enable any individual to create the things he needs or wishes.

Write for Amazing Free Lecture, "Key to Your Inner Power"

The story of a new and revolutionary teaching which reveals a strange inner power so dynamic and forceful that it can carry man to complete happiness, health and financial success almost overnight, is told in a remarkable 5000-word Lecture, "Key to Your Inner Power—the Seven Steps to Success"—recently compiled by Yogi Alpha, internationally known psychologist and philosopher.

He tells of his discovery that all the laws of the universe can be controlled because the laws themselves depend upon the great universal mind for their existence; that every mind is part of this universal mind, and if you learn to use this dynamic energy it can bring complete fulfillment of your most cherished ambitions, WITHOUT PHYSICAL EFFORT.

Yogi Alpha further proves that this power is not limited to a fortunate few, but is latent in every human being, regardless of training, education or environment. This secret Key is so simple to understand and apply that it is amazing no one has found it before.

If you have wondered why many dream of success and happiness, without fulfillment, why they struggle and toil through deadly monotony of daily grind for the few who seem to ALL the good things of life, you will receive the *answer* in "Key to Your Inner Power." And, if YOU have had visions of wonderful achievement, glimpses of riches you could almost reach, he will show you that these visions are PROOF that they are possible for you to attain; that they are part of your INNER POWER that can be quickly tapped if you are given the KEY.

The author offers for a limited time to send this amazing Lecture FREE of cost or obligation to all sincere readers of "Wonder Stories" magazine who wish to begin life ANEW. It explains how you may receive this new and revolutionary teaching in the privacy of your own home, and reveals the astounding secret which, mastered, can enable you, within the next few months, to increase your earning power, attract new friends and make your visions of achievement, health and happiness come true.

Mail the coupon TODAY for your free copy of this unusual Lecture which can unlock the reservoir of vast riches within YOU.

FREE

"Key to Your Inner Power"

Read What Others Say of New Found Health, Happiness and Success

now know greater peace of mind, more ce, greater faith in myself. Through om and enlightenment of the Les- I am envisioning a vista, never before fenced, of security and a sense of r." F. C., Los Angeles.

"Am in much better health and mind and throwing off the burden I have been carrying." Maj. M. B., Los Angeles.

"I saw a marvelous change in the fourth day, and I received a job that morning." C. K., San Francisco.

YOGI ALPHA
Psycho-Logic Institute
Box 98, Dept. 8-F, San Diego, California

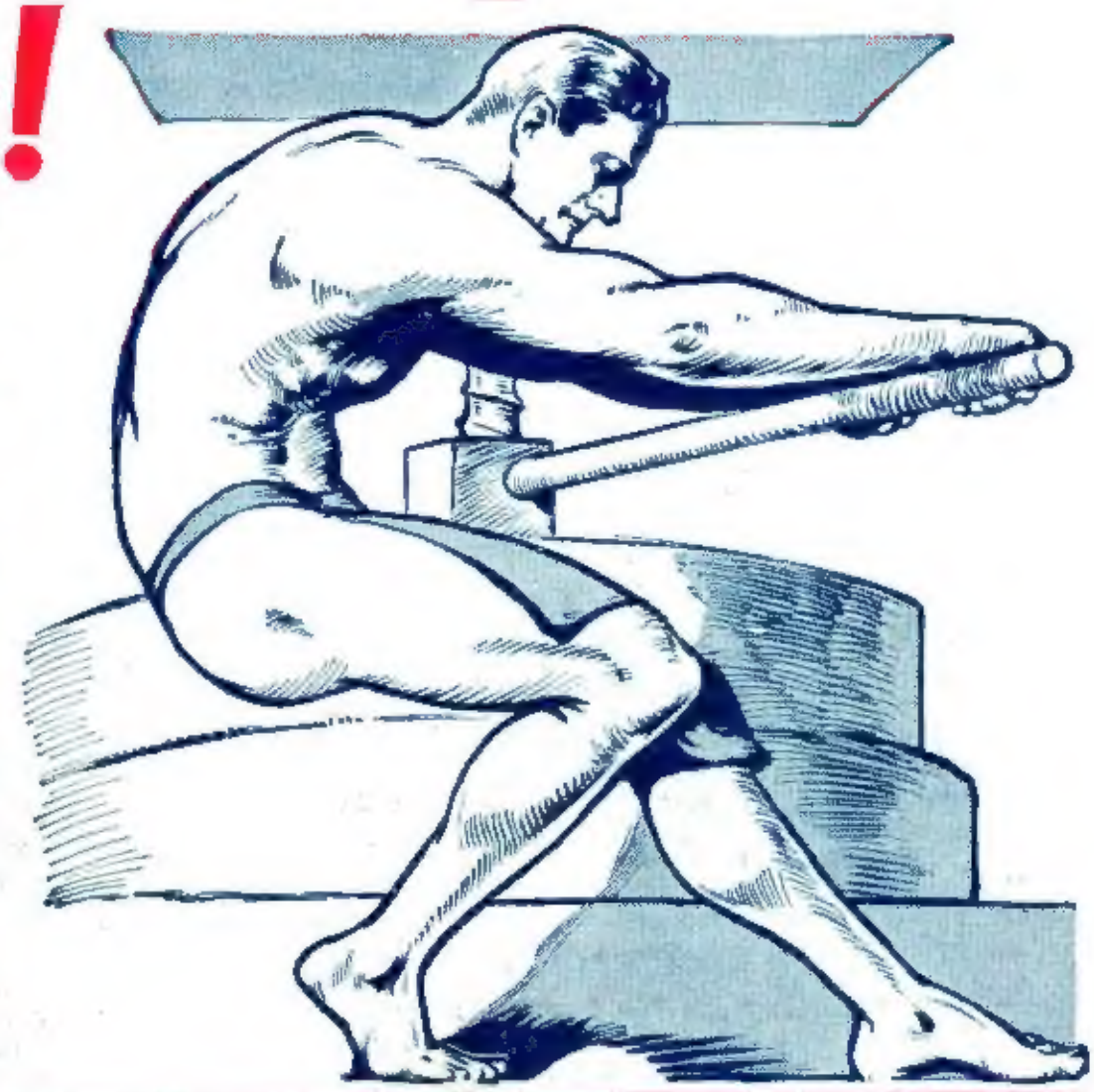
Please send me your FREE Lecture, "Key to Your Inner Power," which reveals the secret of health, happiness and financial success, and explains how I may receive this new and revolutionary teaching in the privacy of my own home.

Name.....

Address.....

City.....State.....

STOP YOUR Rupture Worries!



Learn About My Perfected Unique Rupture Invention!

Why worry and suffer with that rupture any longer? ***Learn now about my perfected rupture invention.*** It has brought ease, comfort, and happiness to thousands by assisting Nature in relieving and curing many cases of reducible hernia! ***You can imagine how happy*** these thousands of rupture sufferers were when they wrote me to report relief, comfort and cures! How would YOU like to be able to ***feel*** that ***same*** happiness—to sit down and write me such a message—a few months ***from today?*** Hurry—send coupon quick for Free Rupture Book, PROOF of results and invention revelation!

Mysterious-Acting Device Binds and Draws the Broken Parts Together as You Would a Broken Limb!

Surprisingly—continually—my perfected ***Automatic*** Air Cushions draw the broken parts together allowing Nature, the Great Healer, to swing into action! All the while you should experience the most ***heavenly*** comfort and security. ***Look!*** No obnoxious springs or pads or metal girdles! **No** salves or plasters! My ***complete*** appliance is feather-lite, durable, invisible, sanitary and **CHEAP IN PRICE!** Wouldn't YOU like to say "good-bye" to rupture worries and "hello" to NEW freedom . . . NEW glory in living . . . NEW happiness—with the help of Mother Nature and my ***mysterious-acting*** Air Cushion Appliances?

Rupture Book FREE!

CONFIDENTIAL COUPON for RUPTURE SUFFERERS

H. C. Brooks,
576A State St., Marshall, Mich.

Rush me your new Free Book, amazing rupture method revelation, proof of results, **all without obligation,** and in plain, sealed envelope.

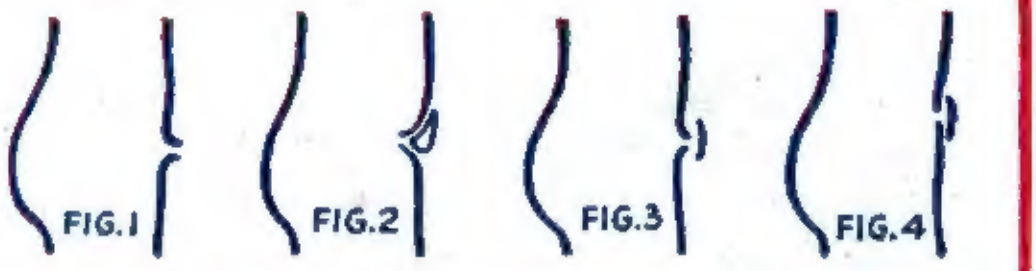
C. E. BROOKS
Inventor

Name .....

St. .....

City *State*

State whether for man, ☐ *woman* ☐ *or child* ☐



Shows rupture before *old-style* truss was applied.

Shows old-style truss in place. The walls of wound cannot come together. A cure is improbable.

Shows rupture before Automatic Air Cushion is in place.

Shows perfected invention in place. *Note* how edges are drawn together in *normal position.*

PROOF!

Reports on Reducible Rupture Cases

"LIFTS 400 LBS.!"

"Have no further use for your Appliance as I'm O. K. Wore it a year. I now can lift 400 lbs., without any fear."—John L. Heiges, 635 W. Locust St., York, Pa.

"CAN RUN UP HILL"

"I had a rupture about 14 years, then wore your Appliance for 3. It is about a year since I threw it away. I feel fine, gaining weight nicely. I can run up and down hill which I never could before." — Mr. J. Soederstrom, 2909 Trowbridge Ave., Cleveland, O.

Sent On Trial!

My invention is never sold in stores nor by agents. Beware of imitations! You can get it only from my U. S. factories or from my 33 foreign offices! *And I'll send it to you on trial.* If you don't like it—if it doesn't "work"—it costs you NOTHING. But don't buy now. Get the facts about it FIRST! Write me today. I'll answer in plain, sealed envelope with amazing information *free.* Stop Your Rupture Worries; *send coupon!*

BROOKS APPLIANCE CO.
576A State St. Marshall, Mich.